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DEPARTMENT OF ARCHAEOLOGY

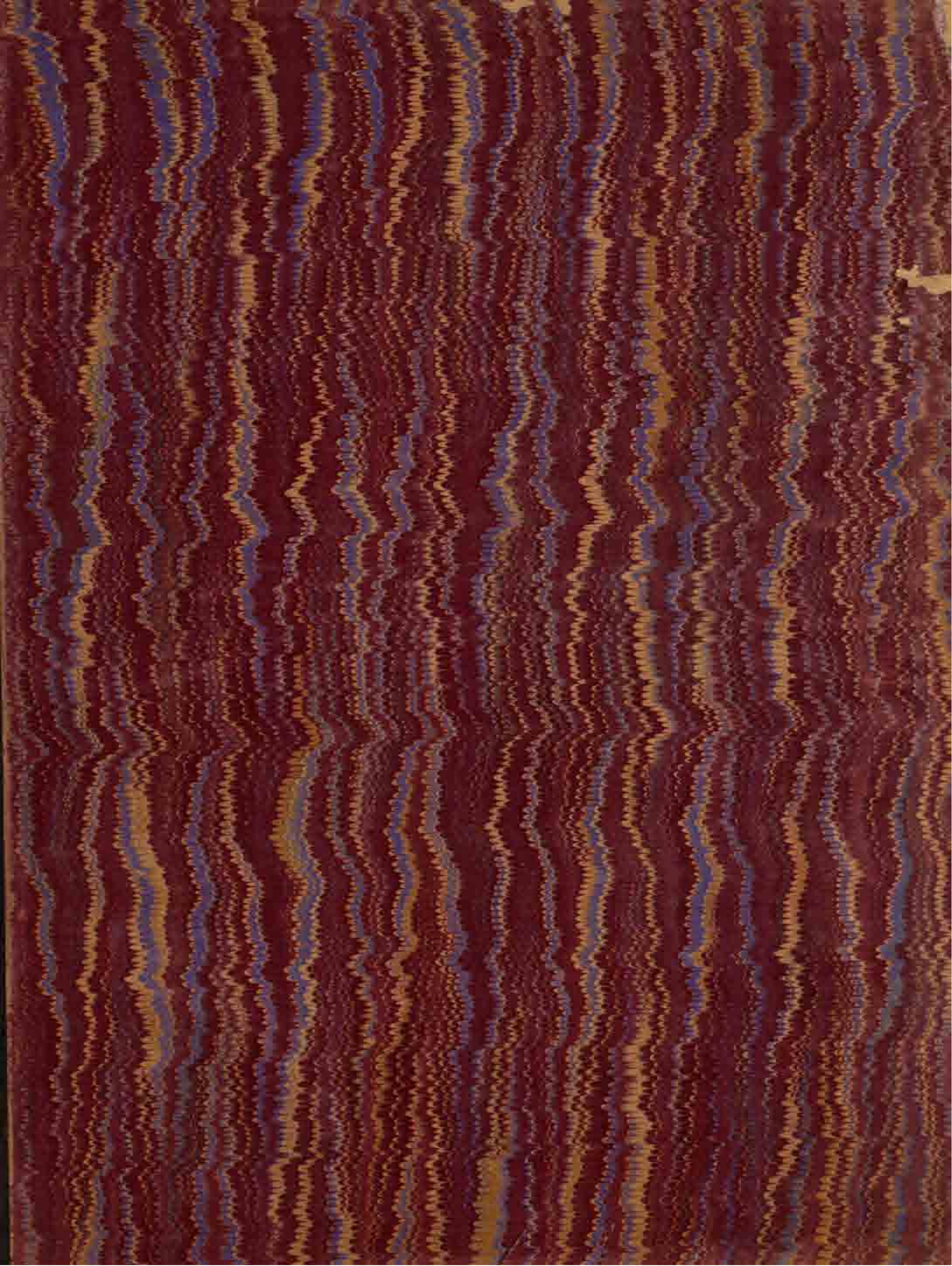
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PLATES I TO V.

PERFORATED AND STUCCO PARAPETS FROM BIJAPUR.

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ONE of the most ornamental features of the Muhammadan buildings at Bijapur is the parapet, which, in its plainest garb, is a kind of battlementing made up of *kanguras* (merlons). These *kanguras* are generally straight-sided, with arched or pointed tops. Then they become more ornamental, and each takes more the shape of a leaf with curved outline, broad in the middle, but narrowing between that and where it joins the wall, somewhat similar to those shown in the top figure on Plate I, though not quite so attenuated. When applied as an ornamental finish to the top of a building, they became much more elaborate and intricate in design and formed a kind of lace-like fringe, which gives an excellent finish to the otherwise straight-lined edge of the building.

In the better buildings they are of stone, in thin slabs set up on edge, and prettily perforated; the thickness of the slabs averaging four or five inches. In other buildings, which are built of rubble or brick and plastered, the *kanguras* are constructed in raised plaster upon a flat surface, the material not admitting of much, if any, delicate perforation in positions exposed to the weather.

The variety of these patterns, which are more or less geometric in outline, and into whose designs those beautiful curves so dear to the heart of the Musalman artist are plentifully introduced, are practically endless. In these buildings they take the place of what is often seen in European buildings, viz. a parapet of balusters along the top of the façade. Sometimes the one pattern is carried right round the four sides of the building; oftener a much plainer and simpler parapet is used on the back and sides, the more elaborate design being reserved for the front.

The patterns given in Plates IV and V are from the sides of the little *chhatris* upon the roof of the Gol Gumbaz, the tomb of Sultan Mahmud, where they are worked in plaster relief in bands around them. They are of the same kind of designs as the ornamental plaster *kanguras* already mentioned.

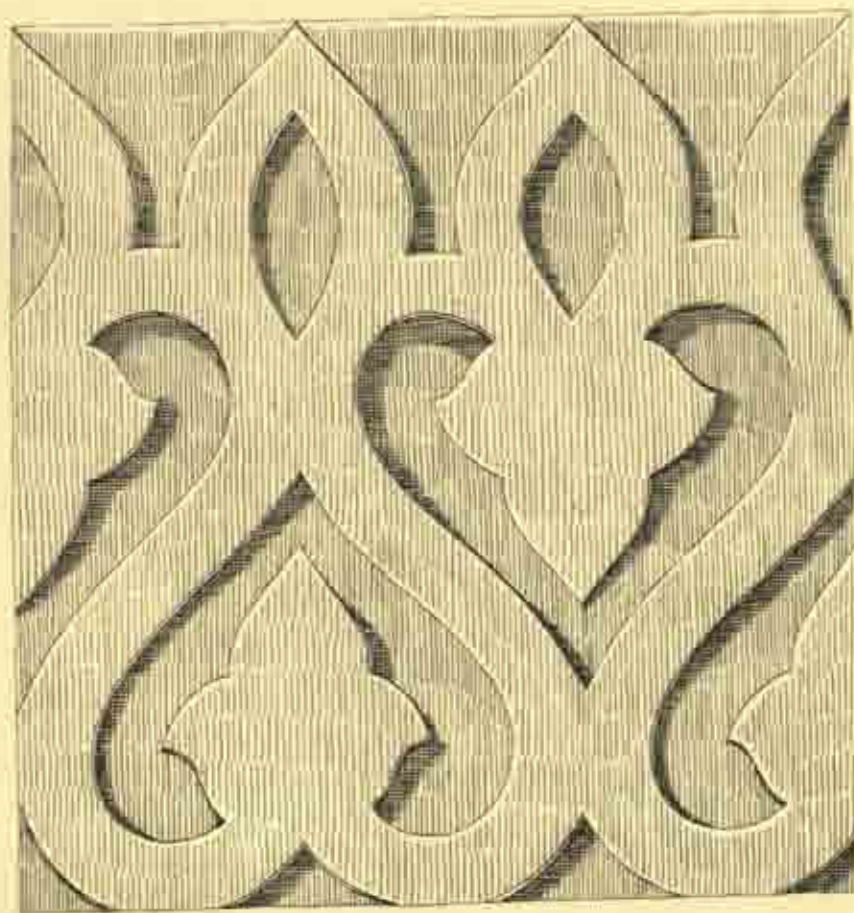
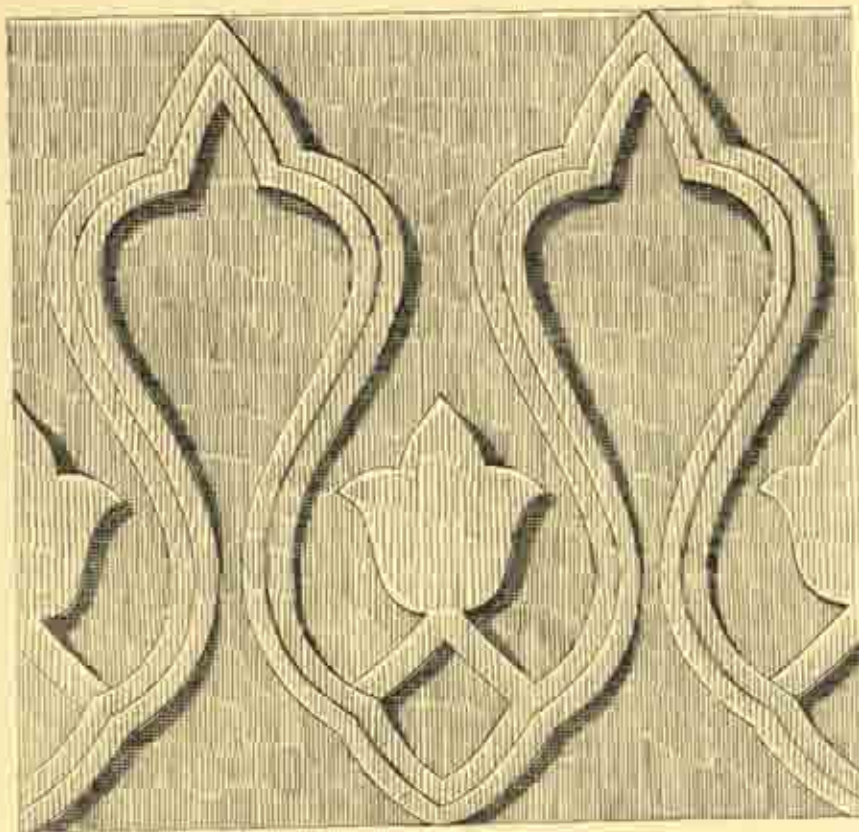
H. COUSENS.

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STUCCO PARAPETS FROM VARIOUS BUILDINGS AT BLIAPUR.

Scale of 12" 1 Foot

Drawn by E. J. Thompson, Engr. Genl. Secy. of Art. Works.





Fig. I.

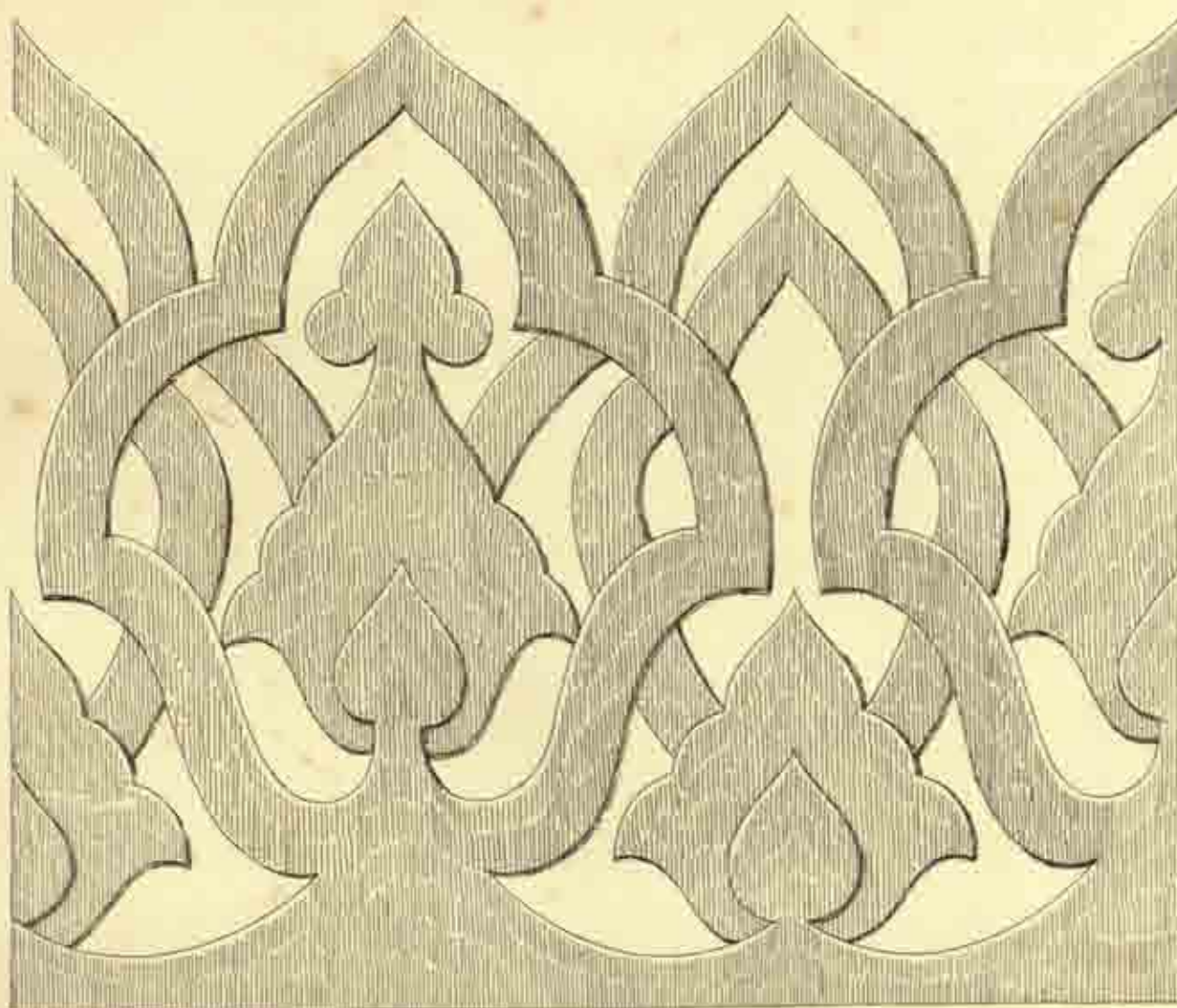


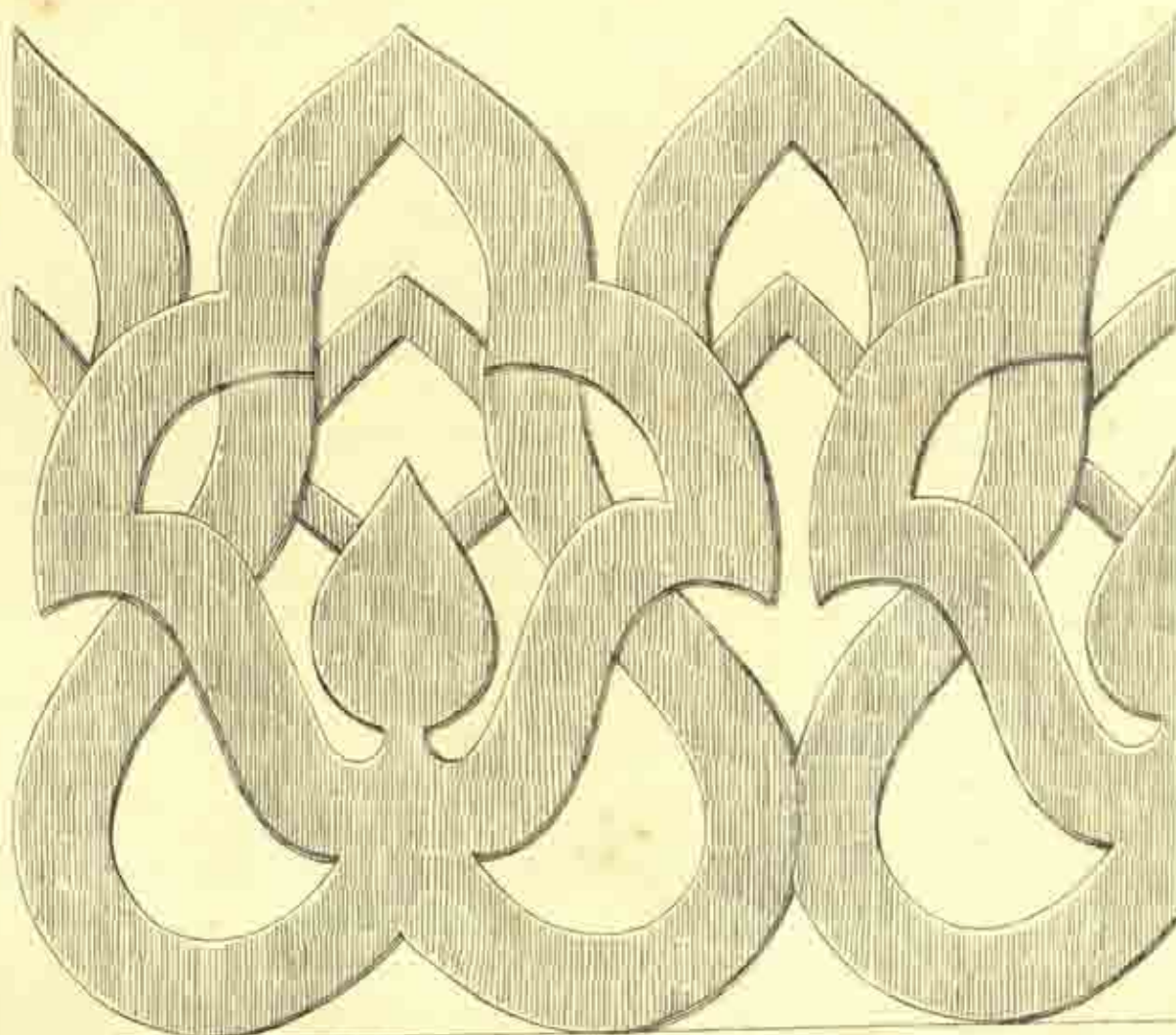
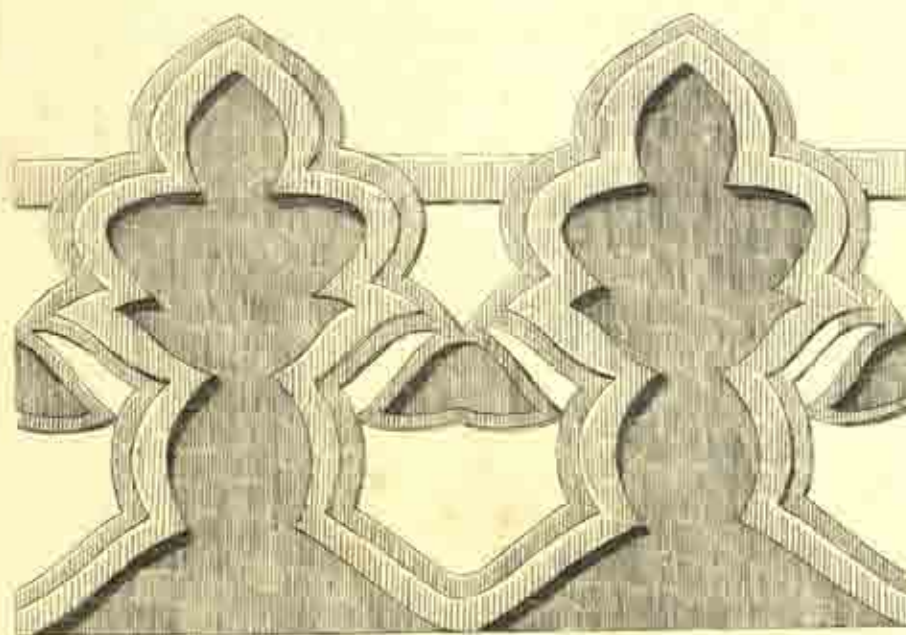
Fig. II.

PERFORATED AND STUCCO PARAPETS FROM VARIOUS BUILDINGS AT BILAPUR.

SCALE OF 12 1 2 3 FEET

Drawn by H. E. Choudhury, Student, Royal School of Art, Calcutta.



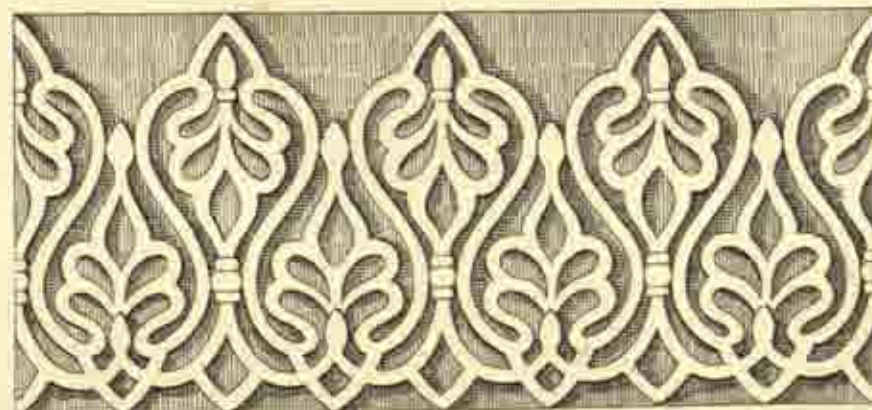
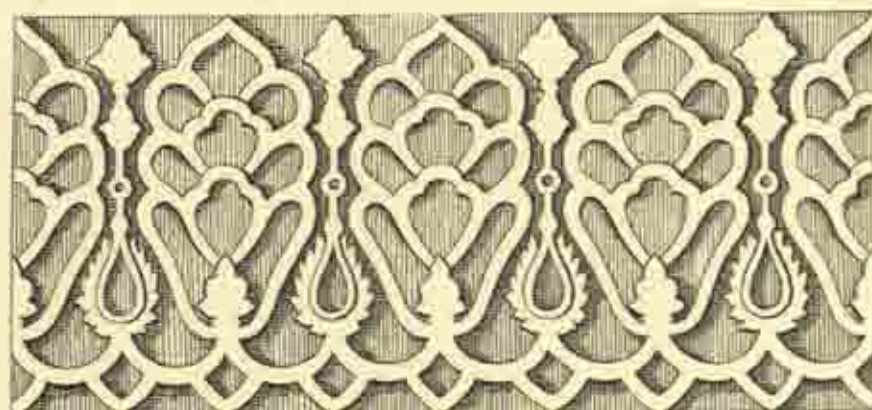
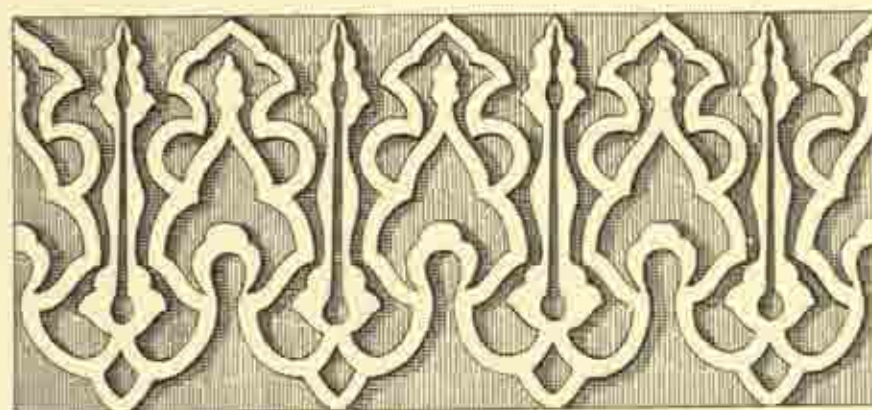
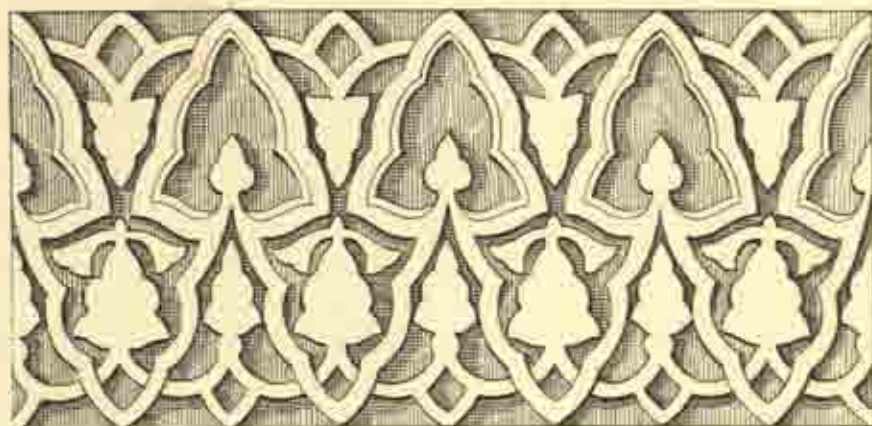


PERFORATED AND STUCCO PARAPETS FROM VARIOUS BUILDINGS AT BILAPUR

SCALE OF 12 3 Feet

Drawn by E.E. Chavitt, Train, Sec. School of Art, Cochin





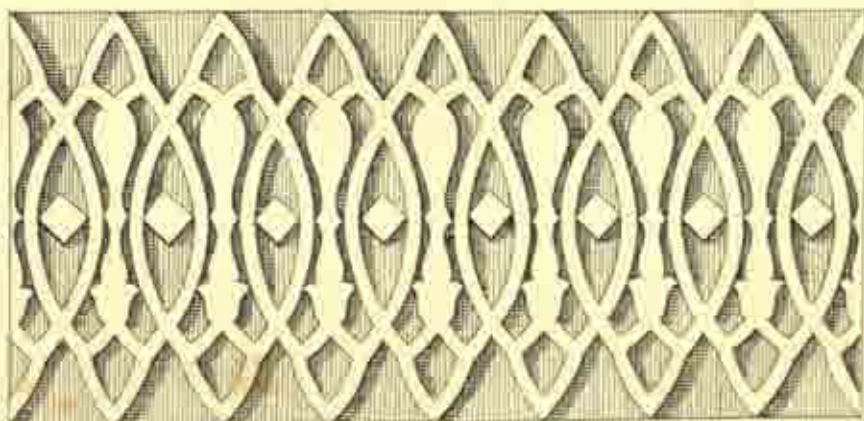
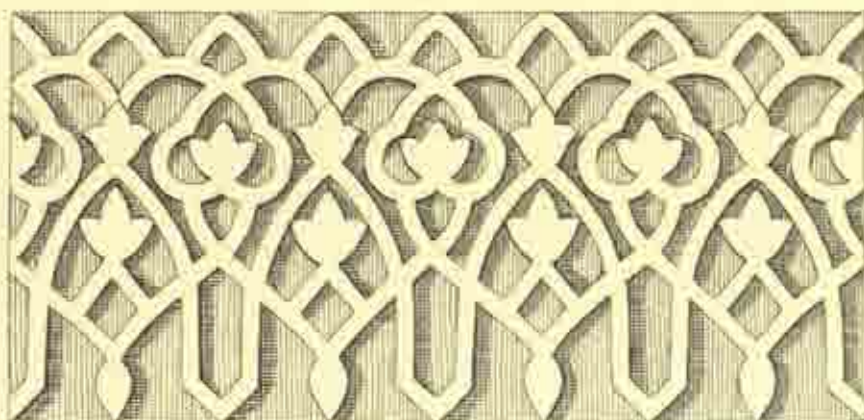
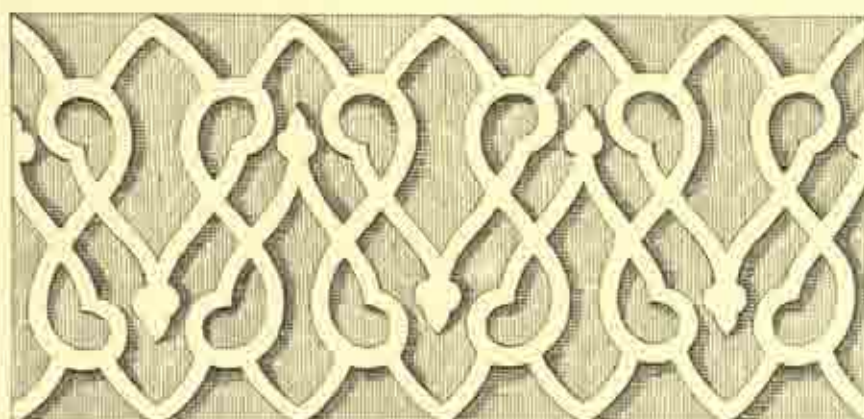
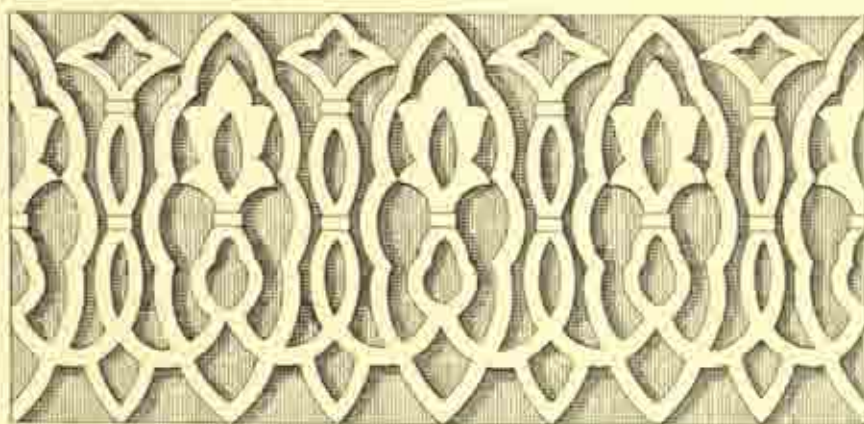
RAISED STUCCO PATTERNS FROM THE GOL GUMBAZ, BILAPUR.

SCALE OF 12 3 FEET

Drawn by S. C. Murali, Public Works, School of Arts, Calcutta.

clapin





RAISED STUCCO PATTERNS FROM THE GOL GUMBAZ, BIJAPUR.

Scale of 12' 0"

FEET

* *Uttam Singh B. K. Mahapatra, Indian Govt. School of art, Calcutta.*





PLATE VI.

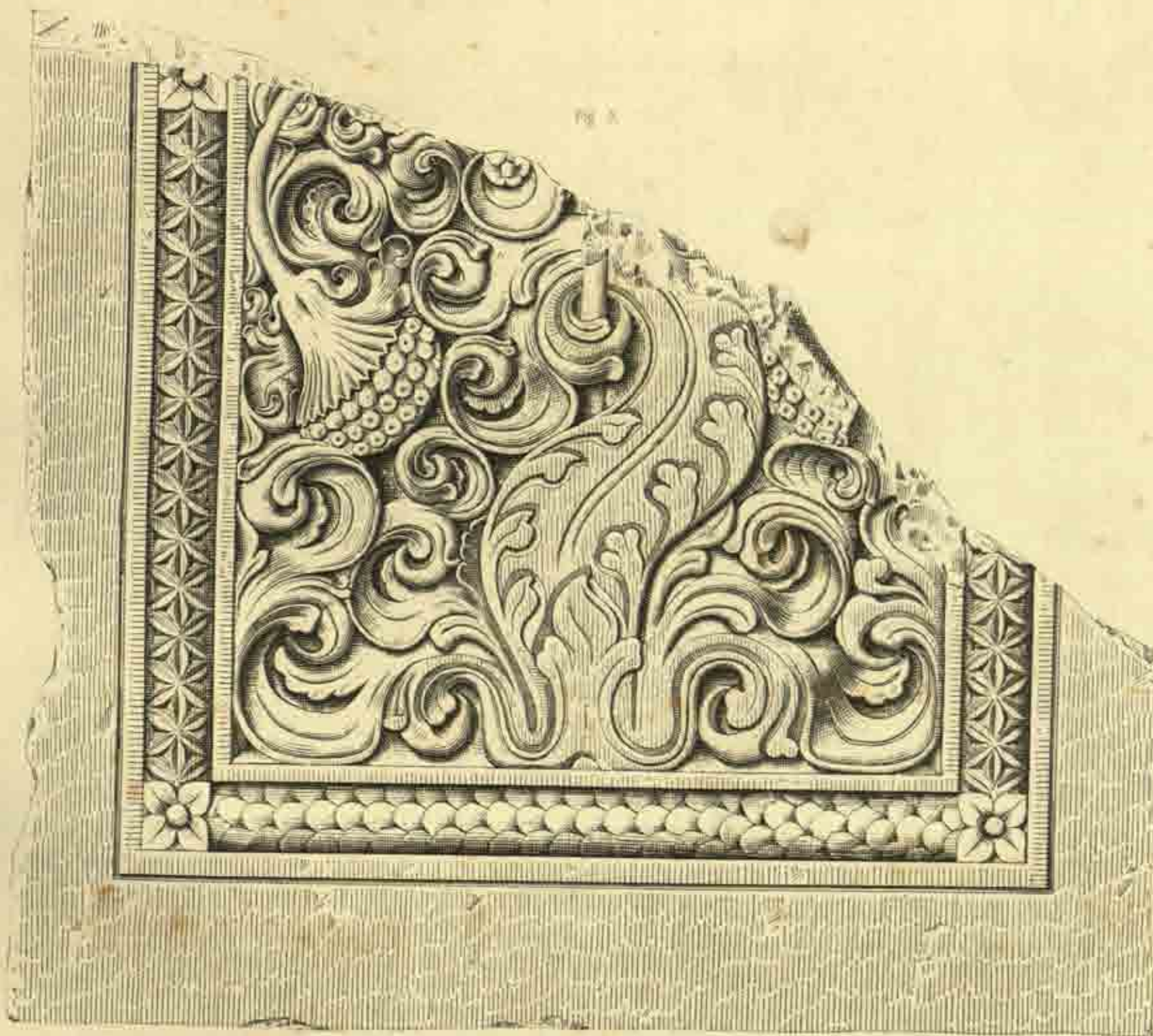
SCULPTURES FROM AN ANCIENT JAINA TEMPLE AT MATHURÂ.

THE illustrations on Plate VI form part of the ornamental details of an ancient Jaina temple buried under the Kankali Tîla at Mathurâ, which was excavated by me in January 1891. According to the inscriptions found on the spot, this temple was built during the Indo-Scythic period, between the years A.D. 83 and 177. The numerous finds prove also that the national Indian arts of architecture and sculpture flourished in a high degree at Mathurâ during the sway of the Scythians over Northern India. Figures 1 and 2 are Jaina symbols on the square bases of small round columns, laboriously chiselled in red sandstone and carefully finished. Figure 1 represents a favourite design with the ancient Jainas at Mathurâ, viz. the *dharmachakra*, or "the turning of the wheel of the holy law." Figure 2, however, is the principal Jaina symbol of the Mathurâ School, viz. the *triratna* symbol, which signifies the *tîrthamkara*, or the deified teacher of the Jainas, the *dharm* or the holy law, and the *saṅgha* or community. This design was a very favourite form for the pinnacle of a gateway, or the earrings of a lady, and for the point of a military standard, or the centre-piece of a necklace. Figure 3 is a broken panel of red sandstone and contains a floral pattern which, though simple in design, is very effective as a decoration. In the treatment of the undulating stalk, studded with leaves and flowers, surrounded with a small border, the ancient Mathurâ artist has shown both fertility of design and delicacy of taste, and the result is a series of ornamentations of rare beauty.

A. FUHRER.



SYMBOLS ON THE BASES OF SMALL COLUMNS FROM AN ANCIENT JAINA TEMPLE AT MATHURĀ.





6 copies

PLATE VII.

DETAIL OF STUCCO WORK IN WESTERN WALL, MAKKA-KA- NAQAL, BUNNUR.

PLATE VII represents some very pretty and interesting ornament in stucco from the interior walls of the small masjid of Makka-ka-Naqal at Bunnur in the Patiala state in the Punjab.

Fig. 1 is a sample of the niches in and around the walls, which for the effect of light and shade have been amply recessed by a series of small receding plain architraves on each side of the opening. The back is arched over by a very debased form of arch. Surrounding the niche is a border enriched by a chain scroll and strap ornament, whilst the top is embattled and ornamented with carving.

Fig. 2 illustrates the parapet wall around the quadrangle. It is crested in the form of a moulded trifoil zig-zag, each division being curiously carved with a conventional leaf scroll border around a narrow irregular elongated panel ornamented with a carved annulet and strap work.

Fig. 3 is a string course below the parapet. Along the top is a scroll connected by a narrow fillet terminating in a pendant drop and dividing the face of the string into a series of small spaces the faces of which are ornamented with raised strap carving.

The style of the work and the ornament is closely allied to that found on the Chaurasi Gumbaz at Kalpi in the Jalaun district of the North Western Provinces, ascribed to the Sikandar Lodi period, which was illustrated in last year's *Technical Art Series*.

E. W. SMITH.

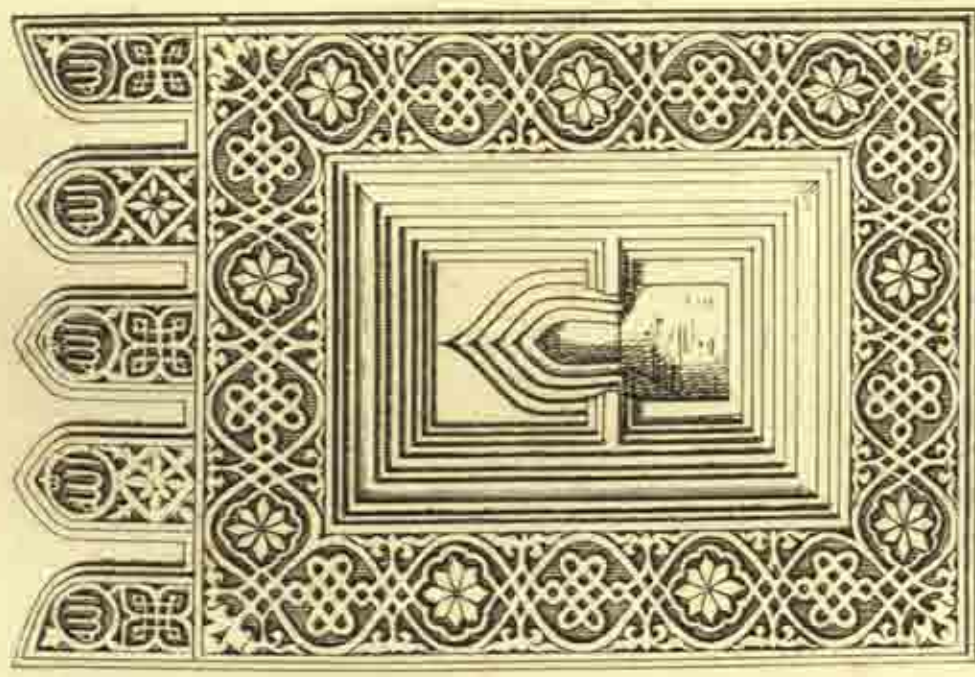


Fig. 1

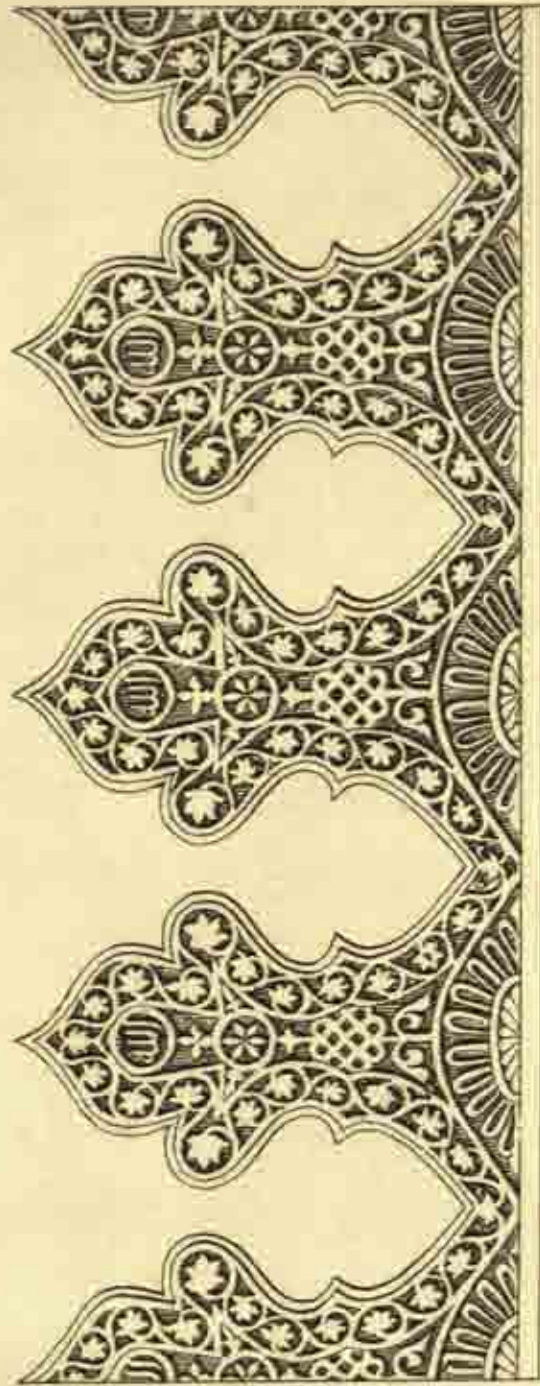
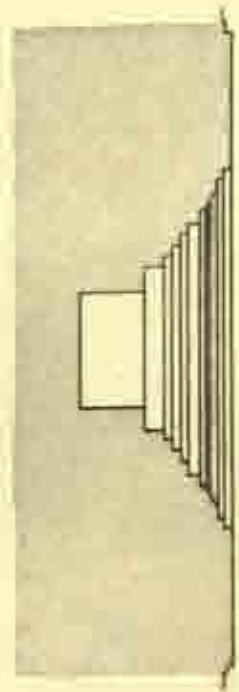


Fig. 3



Fig. 4



DETAILS OF STUCCO-WORK IN WESTERN WALL, MAKKA KA NAQL, BUNNUR.

PLATES VIII & IX.

ROOF OF PATHARIYA MASJID, THÂNESAR.

Both these plates are from the roof of the Pathariya Masjid, or "stone mosque," at Thânesar, in the Ambala district of the Punjab, and about 29 miles from that city.

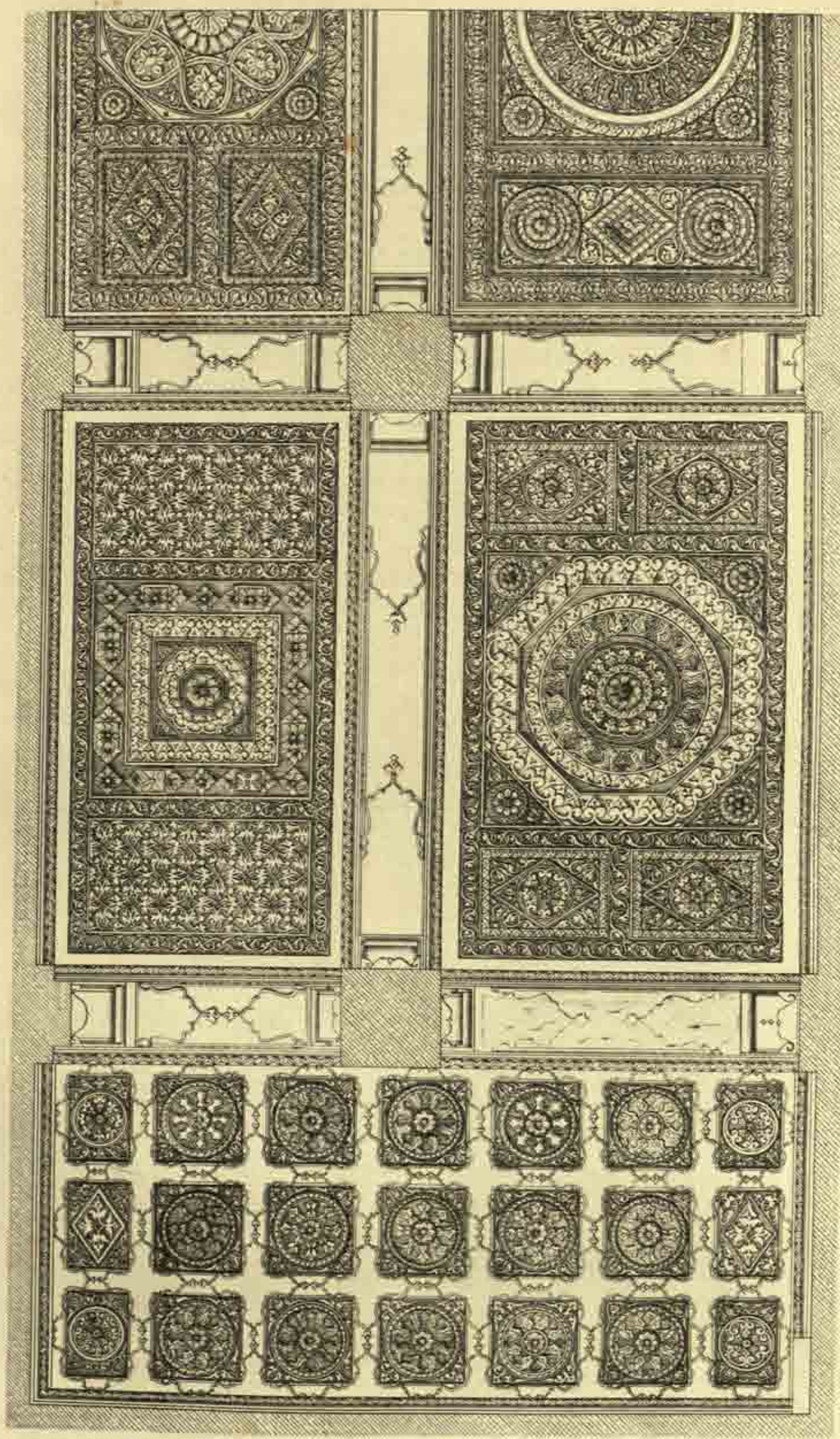
The town of Thânesar is a most sacred one and a famous place of Hindu pilgrimage, and is mentioned by Hiuen Tsiang in his travels through India during the 7th century. The masjid is within the old fort and near Shaikh Chilli's tomb. It is a small building, some 36 feet in length by 9 ft. 11 in. in width. The ceiling covers this area, and is supported by lintels, upheld by bracketed capitals and shafts, the positions of which are indicated on the drawings. The central portion is divided into six main bays, whilst at each end is an oblong panel, some 4 ft. 7 in. in width and extending the entire width of the building. These latter are divided into twenty-one small square panels, the whole surface being enclosed by a star-moulded border. In each panel is a rich patera.

Of the main panels three are broader than the others, the discrepancy being accounted for by the disposition of the columns below, but in length, though, they assimilate.

Each panel is sub-divided by smaller ones surrounding a large and elaborate patera occupying a central position. Each panel is enclosed by a border of floriated carving, whilst the field of each is richly embellished with intricate carving.

The roof is of extreme beauty, and closely resembles those in Bir Bal's House at Fathpur Sikri. Indeed, some of the designs employed are identical, and, like those, it is wrought in red sandstone. The building has been assigned to the end of the 14th century, but the ceiling may have been an addition.

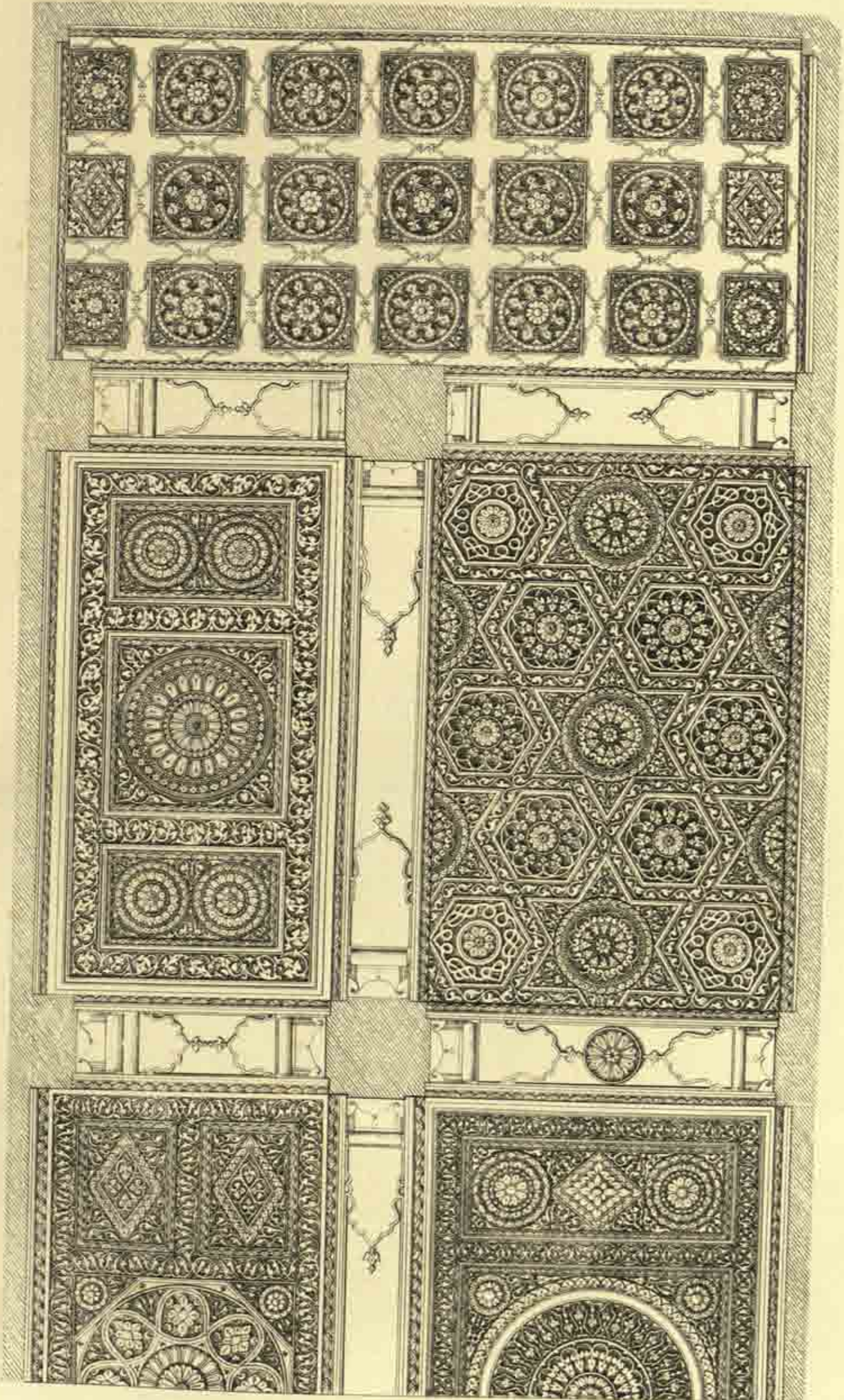
E. W. SMITH.



Scale.

Inches 12 9 6 3 0
Feet 1 2 3 4 5 6 7 8 9 10 11

SOUTHERN HALL OF ROOF, PATHAHILYA MAHAL, TANJORE.



Scale



NORTHERN HALF OF ROOF, PATHARITA MABBID, THANESAR

Photodupl.

PLATE X.

TRELLISED WINDOWS, TOMB OF SHAIKH CHILLI, THÂNESAR.

Like plate IX this illustration is taken from Thânesar, but in this case from the tomb of Shaikh Chilli, a small octagonal building of white marble, surmounted by a fine dome of the same material.

The windows, like those surrounding Saint Salim Chishti's tomb at Fathpur Sikri, are carved out of solid blocks of white marble, the spaces between the trellising extending the entire thickness of the slab. The centre pier is of a flowered pattern, enclosed by a plain flat border, surrounded by an elaborate panel, carved with a floral design, set in a plain architrave.

From the style of trellising and the dome surmounting the tomb, which is pear-shaped, this building may have been built about 1650 A.D.

E. W. SMITH.

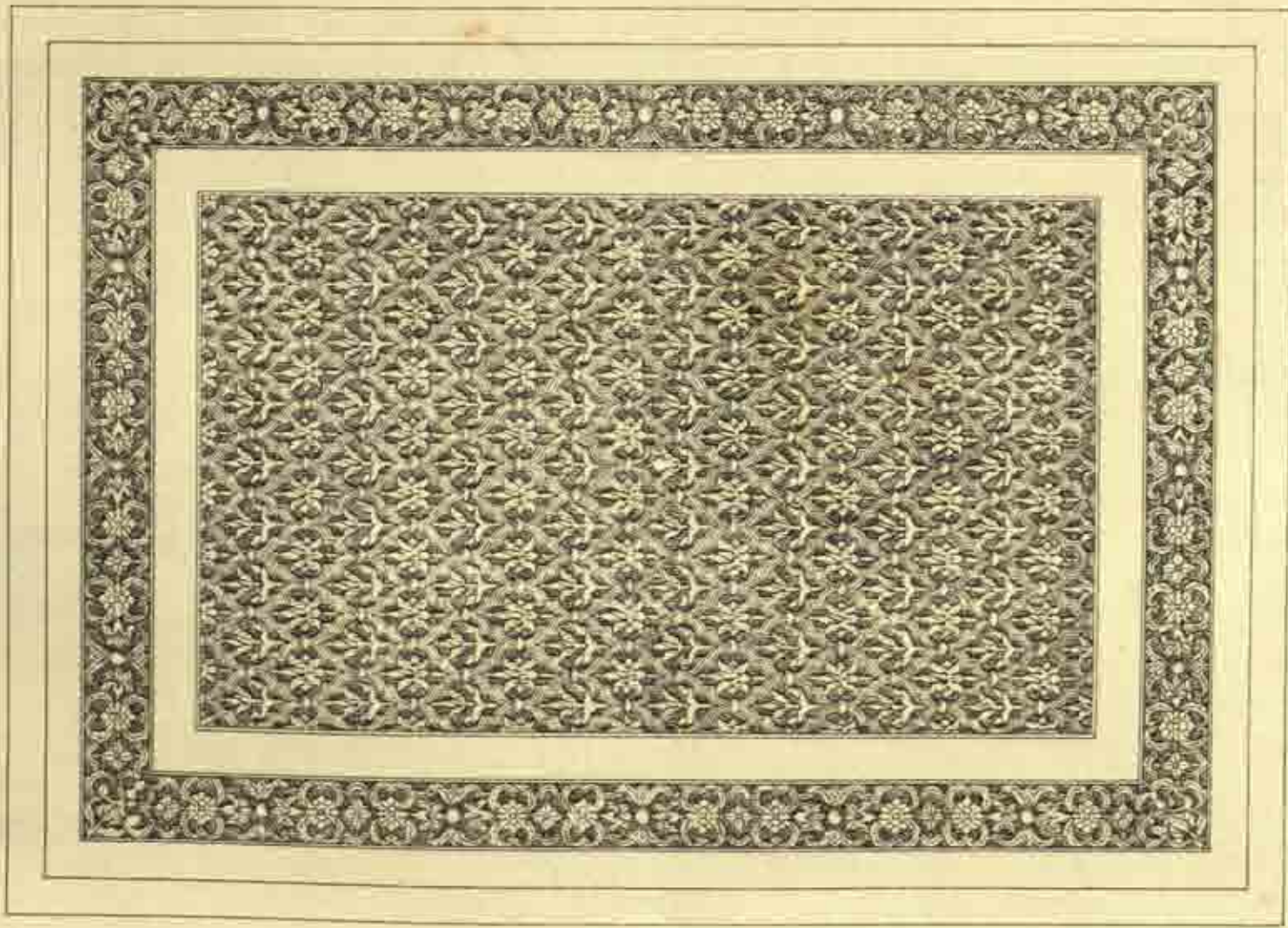


Fig. 1

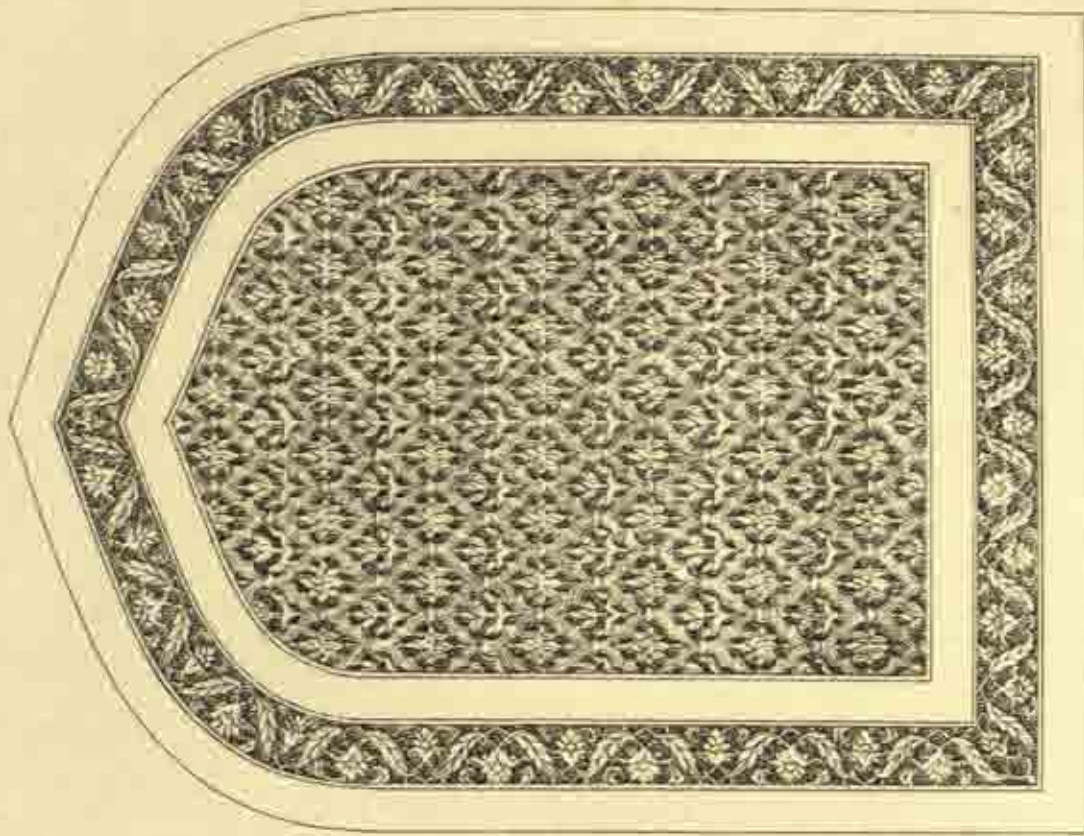


Fig. 2

Scale



TRELLIS WINDOW, TOMB OF SHAKESPEARE, STRANDBURY

PLATE XI.

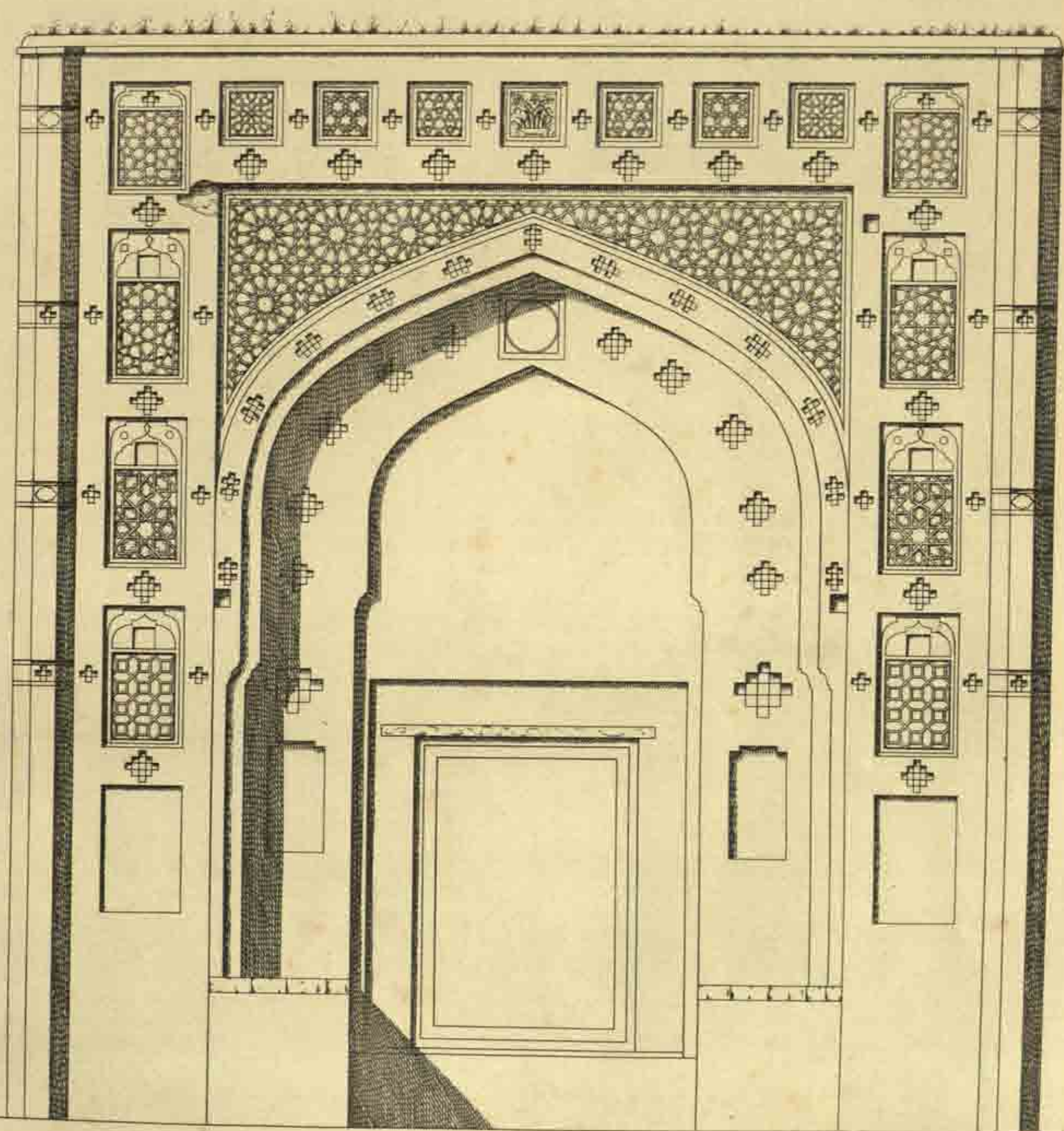
GATEWAY NEAR QÂZÎ'S MASJID, SÂDHAURA.

Sâdhaura is an old town, once the head-quarters of a large district, situated some 24 miles to the east of Ambâla in the Punjab. Amongst other remains are two gateways, one of which we now illustrate.

The entrance is arched, and the spandrels over it filled in with a rich and intricate design moresque in feeling, whilst the front faces of the abutments on each side are cut up by five oblong panels, the horizontal space over the vertex of the arch being divided into seven smaller but similar ones.

The gate is built of brick, stuccoed over, and the spandrels of the arches and the panels are ornamented with glazed tiles of geometrical design, in blue, yellow, and green.

E. W. SMITH.



Scale

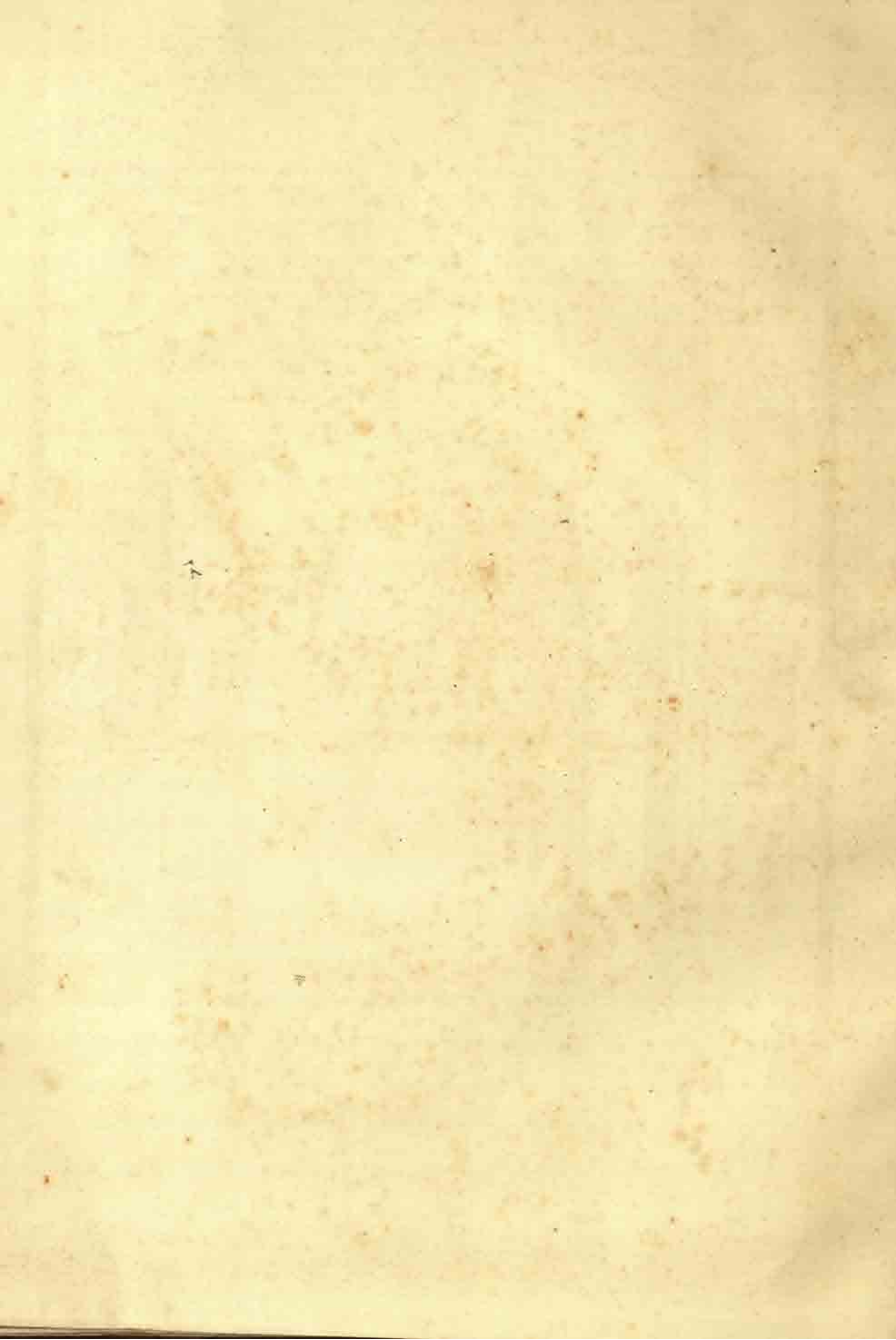
Inches 12 6 3 5 10 15 Feet

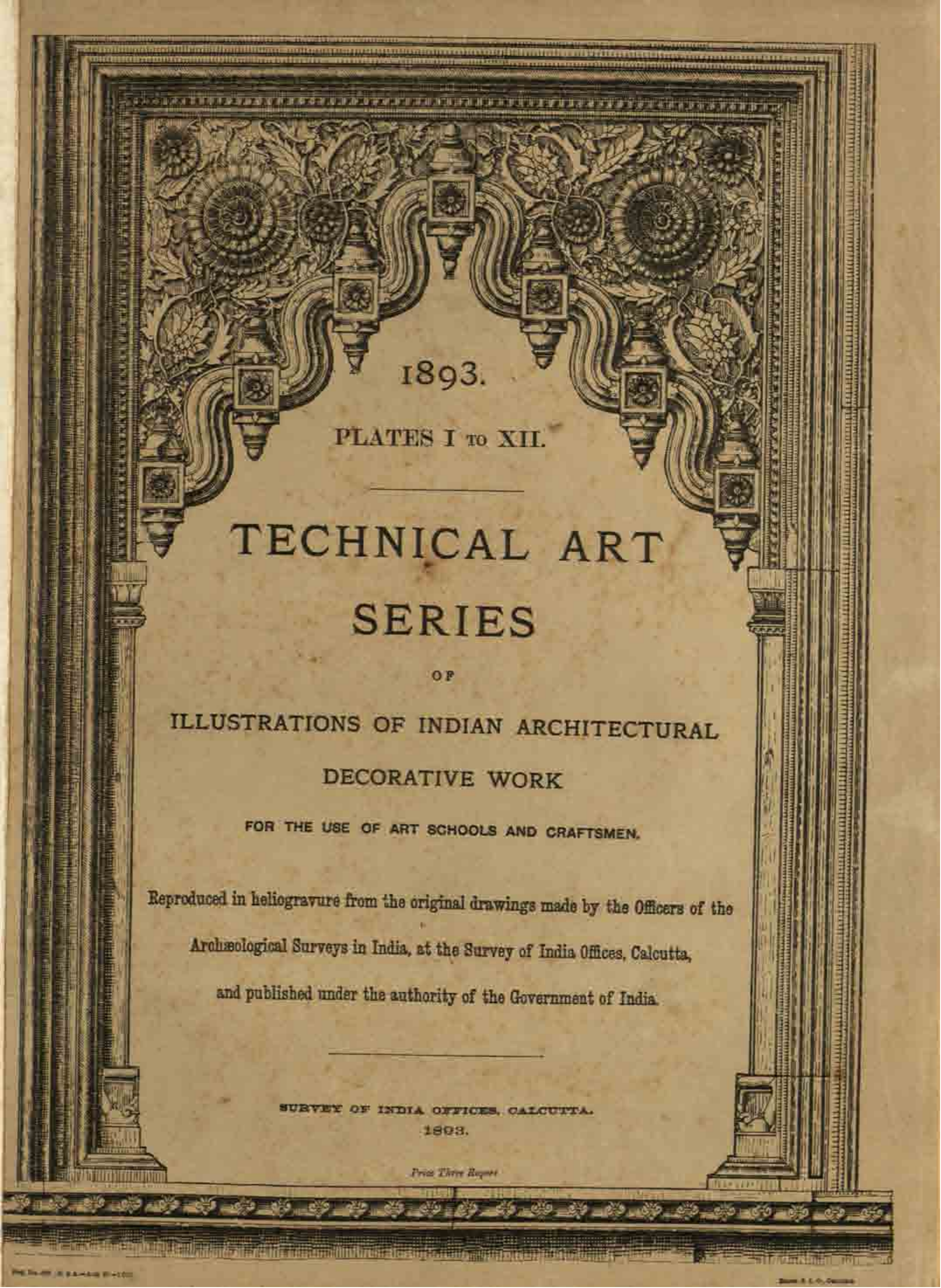
GATEWAY NEAR QAZI'S MASJID. SADHAURA.

Photo-etching.

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Survey of India, Office, Calcutta, August 1882





1893.

PLATES I TO XII.

TECHNICAL ART
SERIES

OF

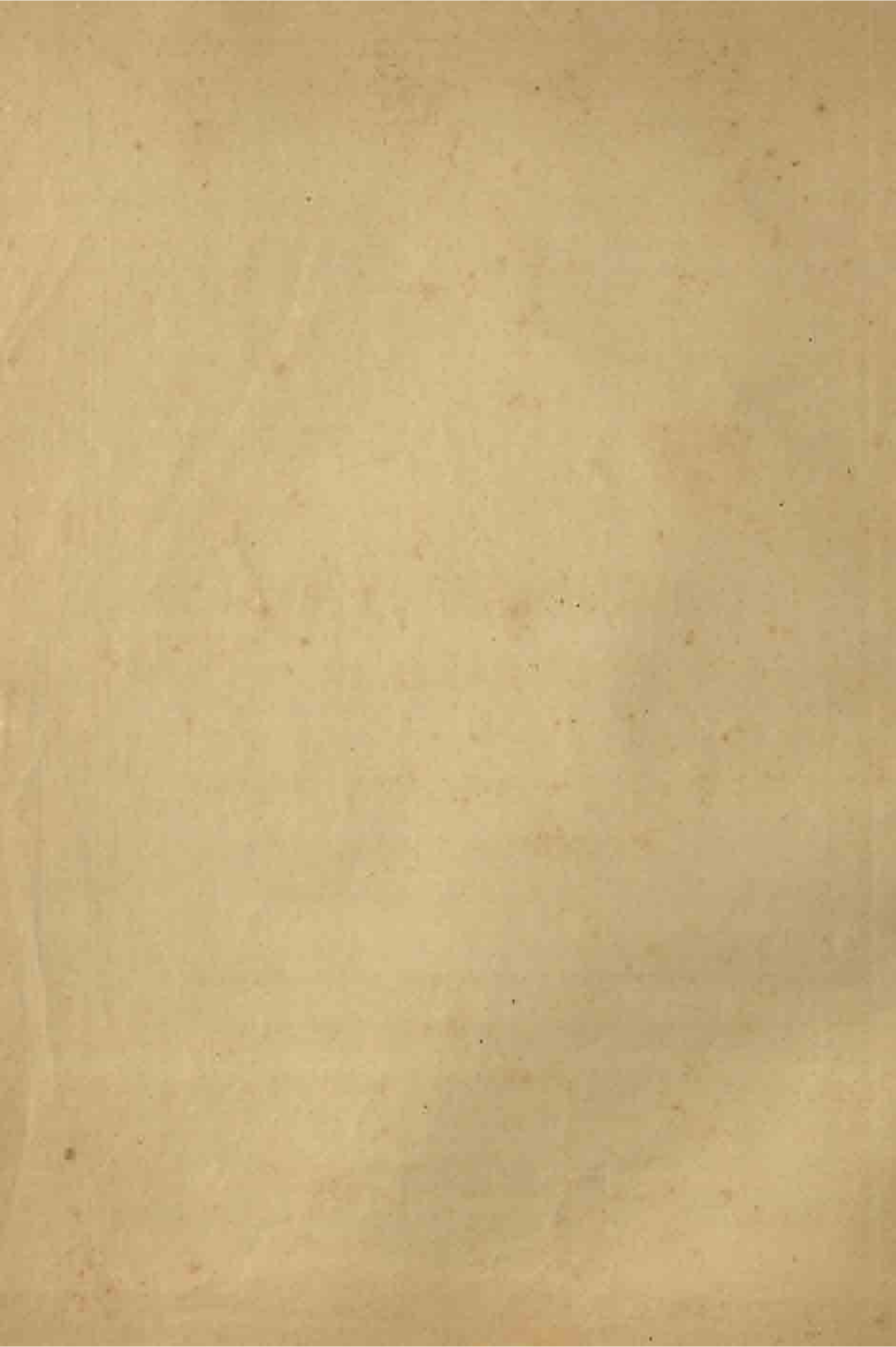
ILLUSTRATIONS OF INDIAN ARCHITECTURAL
DECORATIVE WORK

FOR THE USE OF ART SCHOOLS AND CRAFTSMEN.

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and published under the authority of the Government of India.

SURVEY OF INDIA OFFICES, CALCUTTA.
1893.

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TECHNICAL ART SERIES 1893.

PLATE I.

PANEL AND ORNAMENTS ON PIERS, RÂMASVÂMI
TEMPLE, KUMBAKONAM, TANJORE DISTRICT.

THE temple of Râmasvâmi is architecturally the principal building in the town of Kumbakonam. Its earliest shrines date from the 11th century. The front colonnade dates from the 17th century. The latter contains a number of highly ornate piers, approaching in style the work found at Madura. The figures in the plate are examples of Dravidian carving from these piers. Fig. 1 is a horizontal band. Figs. 2 and 3 are ornaments applied to the body of the shaft. Fig. 4 is a panel on the square blocks found at the base, capital, and middle of the piers.

A. REA.

THEY ARE ALSO AVAILABLE IN THE BUREAU OF ETHNOLOGICAL RESEARCH, WASHINGTON, D. C.



Fig. 1



Fig. 2

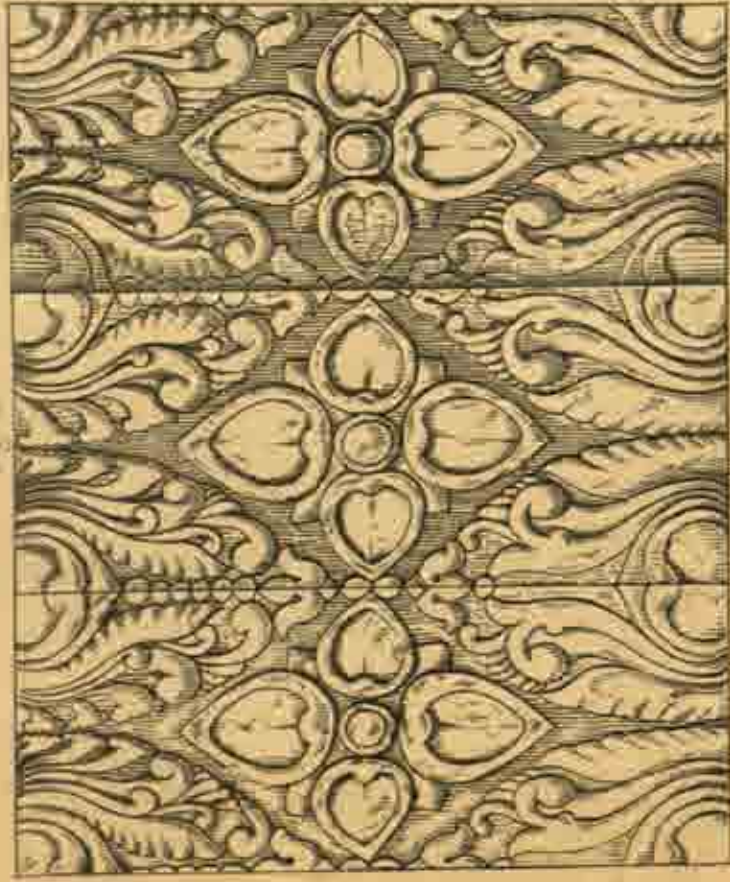
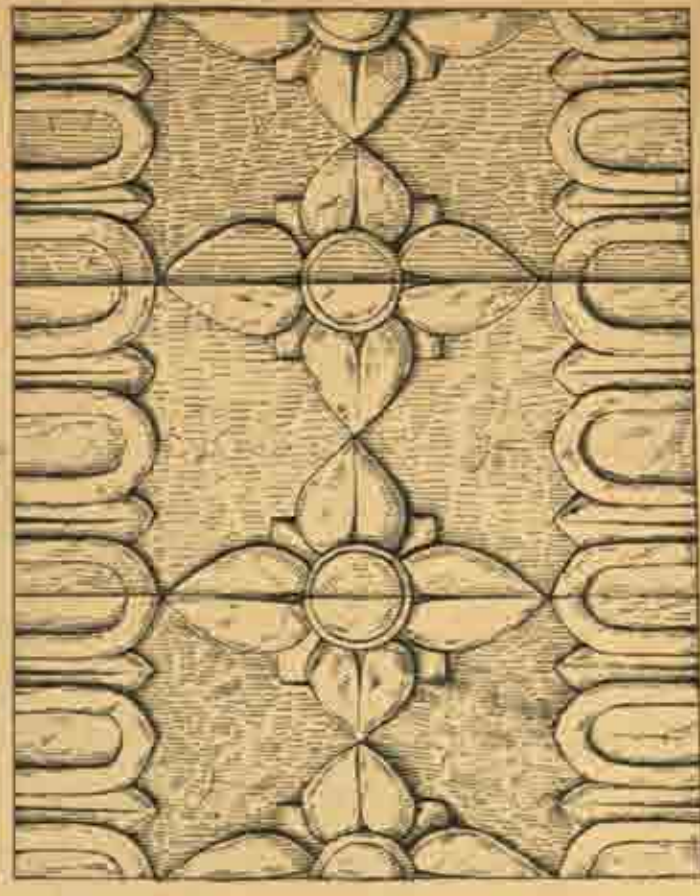


Fig. 3



Scale of Feet

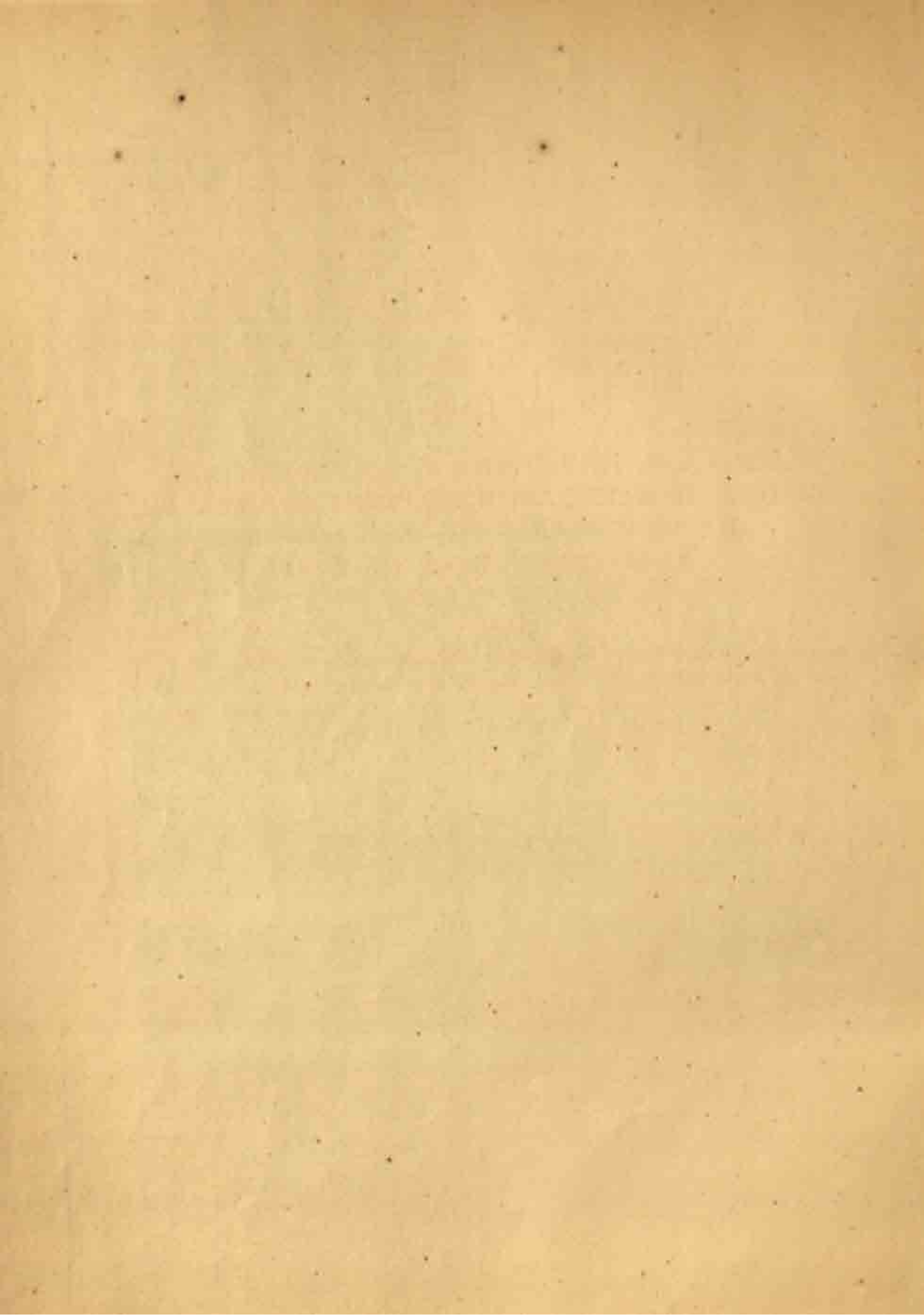


Scale of Feet



PANEL & ORNAMENTS ON PIERCE KUMARAVAMI TEMPLE KUMARAVAMI TANGORAN DISTRICT

Continued



PLATES II AND III.

CARVED PANELS ON THE SHRINE PILASTERS,
NÂGÊS WARA TEMPLE, KUMBAKONAM (II), AND ON
THE PANCHANÂDÊS'VARA TEMPLE (III),
TIRUVÂDI, TANJORE DISTRICT.

THE figures on these two plates are from different temples, and illustrate Chôla work of the 11th century. The pilasters are those on the walls of the shrines. The carving is placed underneath the capitals. The figures on Plate III have capitals similar to those shown on Plate II.

A. REA.

Genl. Antiquarian Survey of Southern India, 1879.

Fig. 1

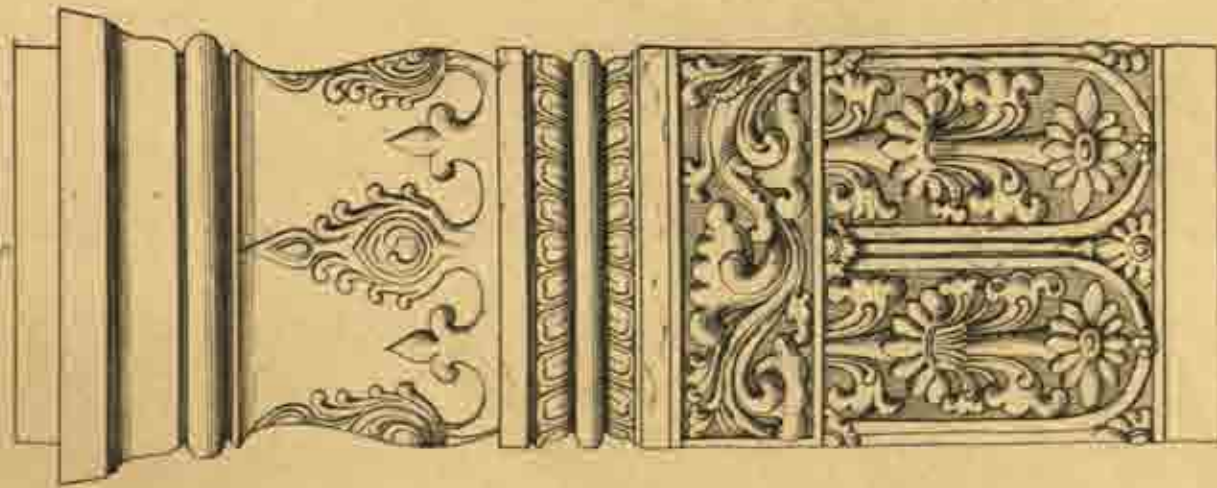


Fig. 2

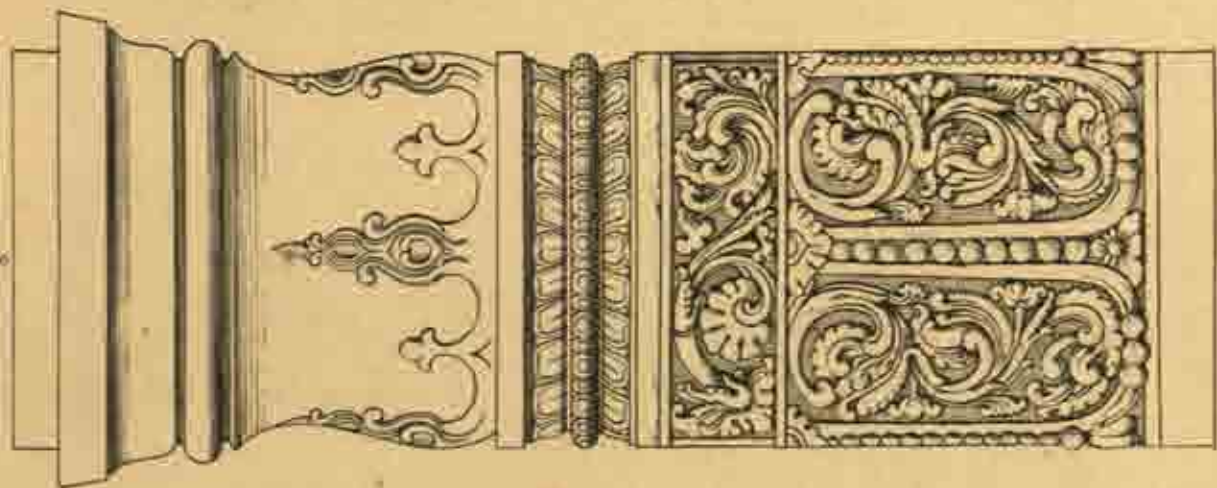
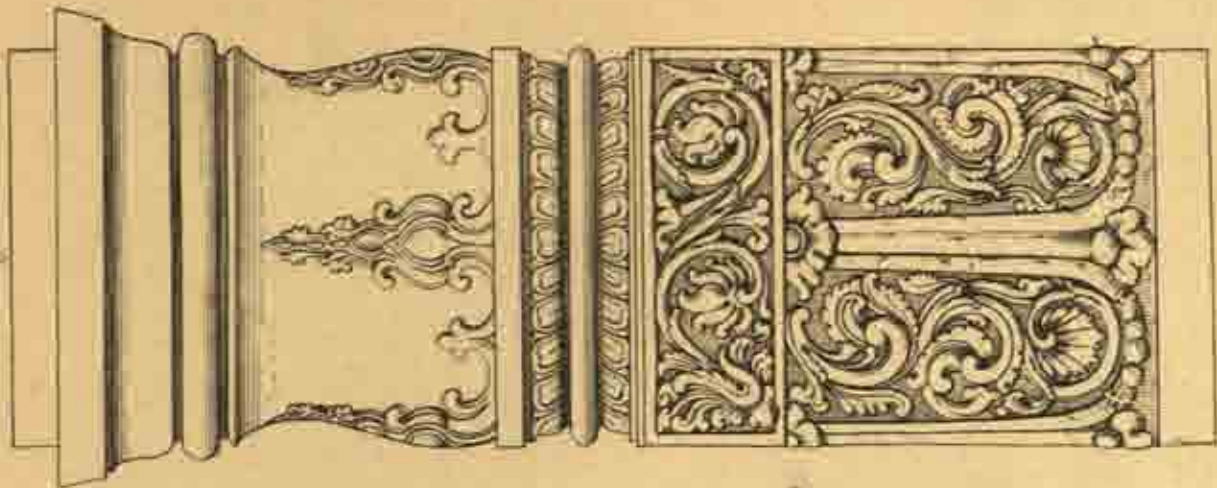
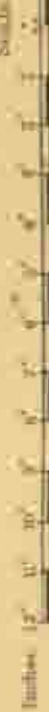


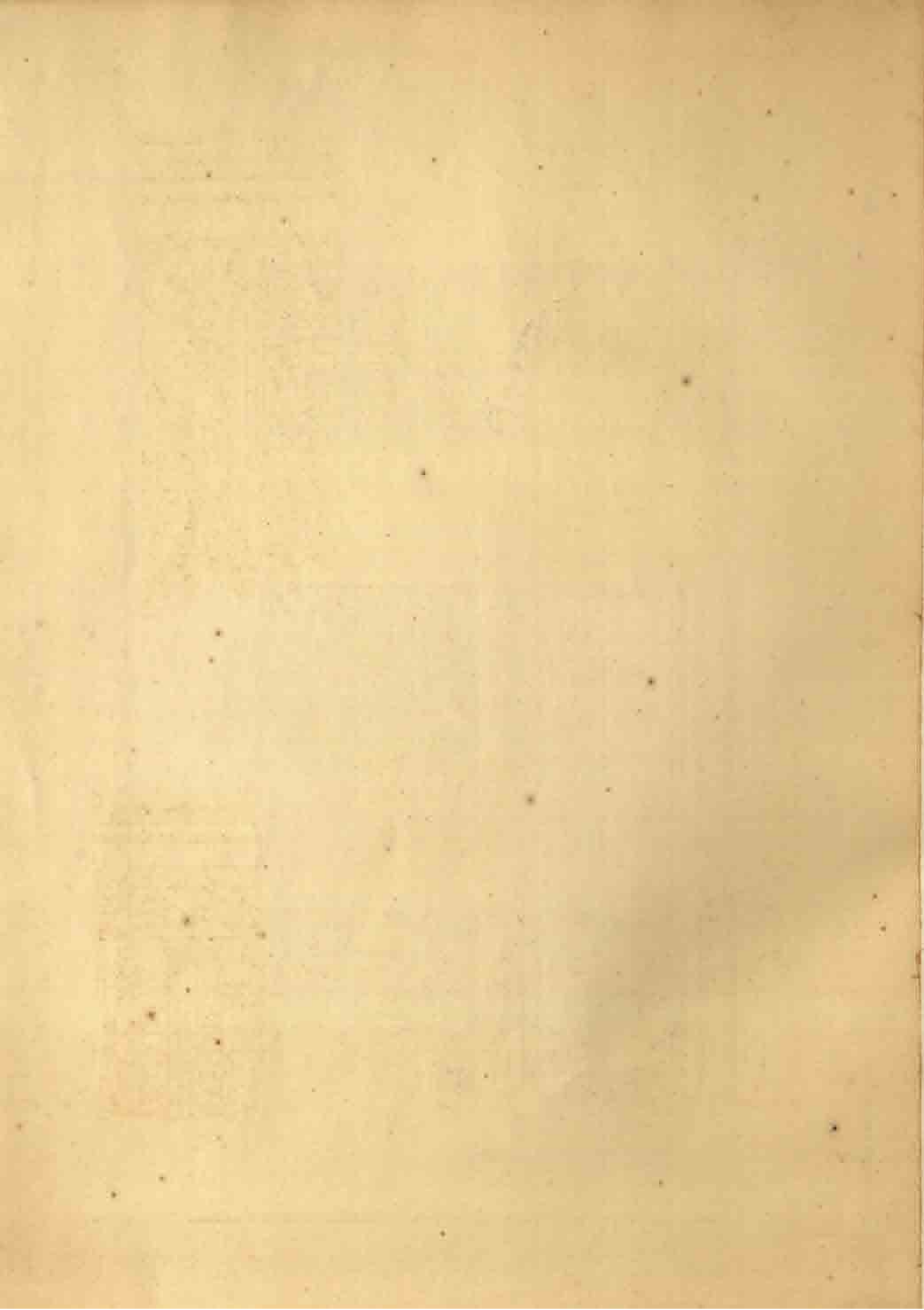
Fig. 3



Scale.

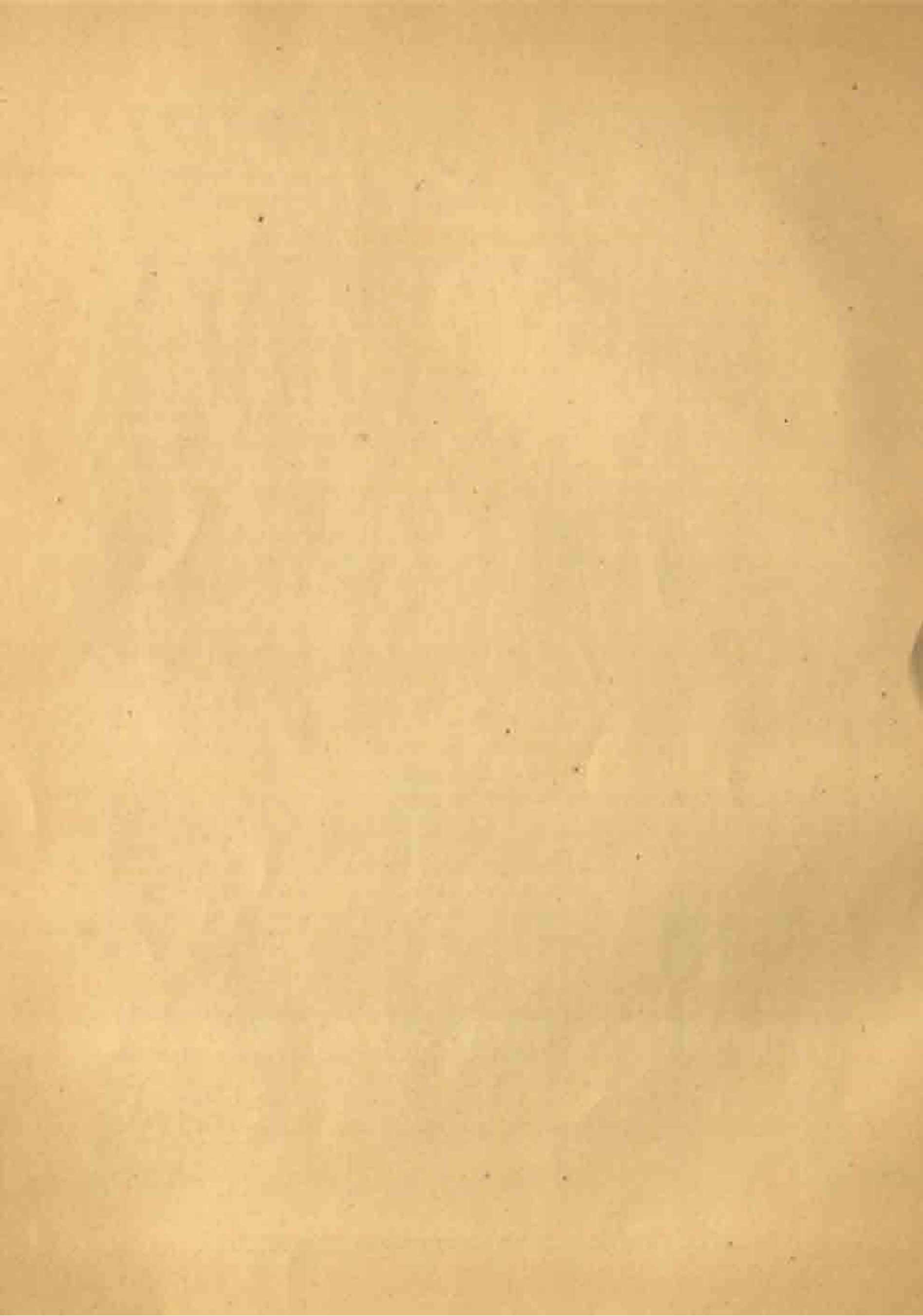


CARVED PANELS ON THE SHRINE OF THE GODDESS, KUMBAKONAM, TAMIL NADU DISTRICT.



[50a] ARCHITECTURAL SURVEY OF SOUTHERN INDIA. NO. 800.





PLATES IV AND V.

MIHRAB FROM RUINED MOSQUE AT ERANDOL, KHANDESH.

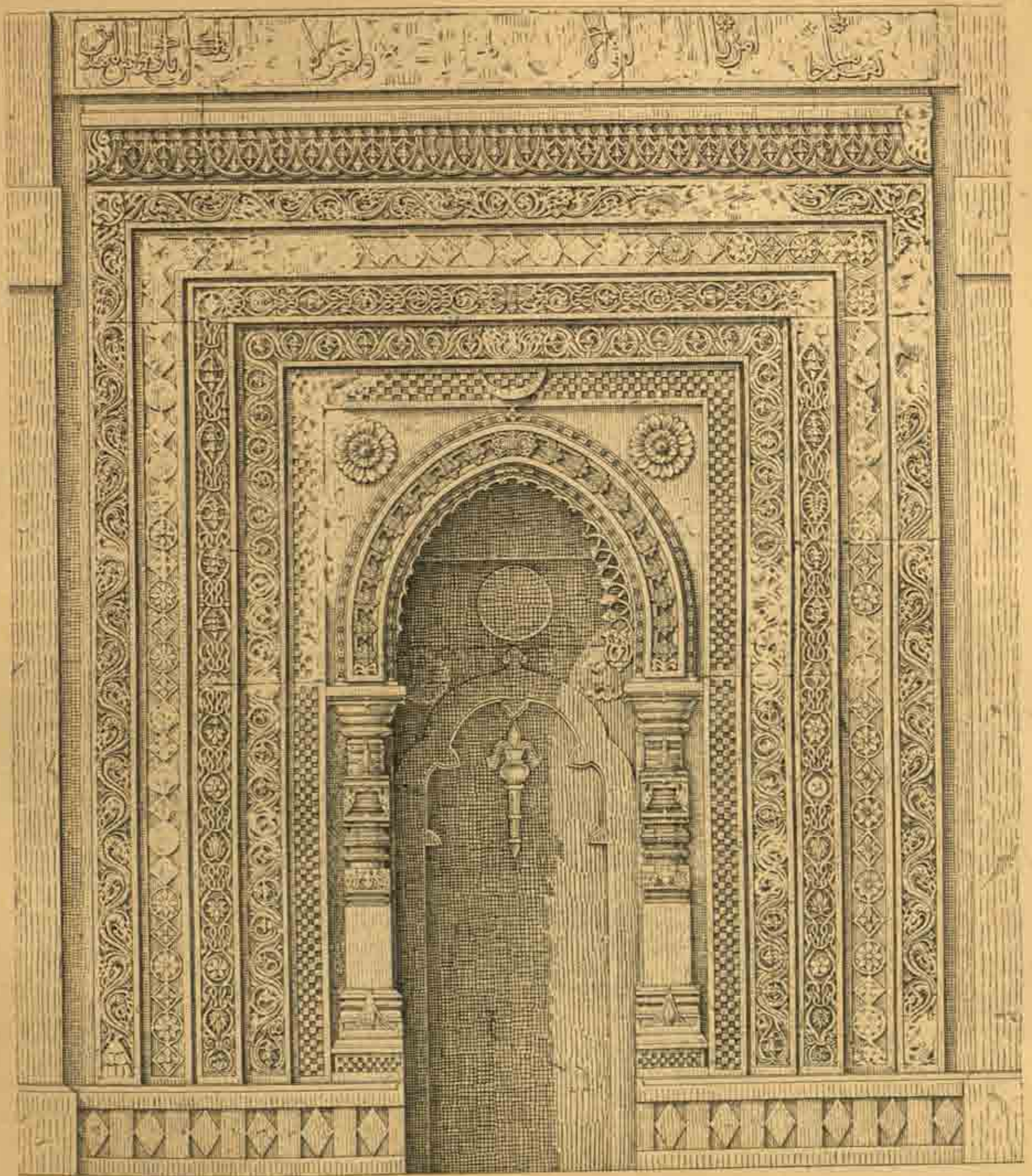
PLATE IV gives an elevation of a carved stone *mihrab* from the old ruined mosque known as the Pāṇḍawāchā wādā at Erandol, in Khandesh. It is one of several, built into the back wall of the mosque, which are partly covered with the debris of the ruined building. It will be seen that the details are Hindu; and more, the general design of the whole is Hindu—that of a Hindu doorway adapted to its present use. The arch is the only foreign element in it. The very pilasters which uphold the arch belong to the original doorway, and were generally placed about the middle of the bands of moulding which run up either side, occupying the place of the middle moulding on this plate. Notwithstanding their damaged and weatherworn condition, these *mihrabs* are very handsome, one of the most pleasing features being the delicate fringe of hanging buds around the soffits of the arches. This is seen better on Plate V. The two strings of lotus buds running round the arch is a very favourite Hindu ornament, and is generally found running up the angular recesses of doorways between the broader bands of moulding. The upper and the lower of the three bands on Plate V are also very common Hindu ornament.

The mosque was built partly of pillars and other materials from a former Hindu temple; and, while much of the material was used over again for its original purpose, the sculptured figures with their delicate and minute ornament were relegated to the baser use of "filling in" for the great walls of the courtyard, and from sundry chinks and breaches they may be seen peering out pleadingly from their inglorious positions. Just as temple pillars, ceilings, beams, and other members have been used wholesale in the construction of many mosques, so would the elaborately sculptured doorways have been used too for the *mihrabs*, had they not been so covered with figure sculpture. This, to the iconoclast Musalman, was intolerable. He knocked off the few figures from the pillars before using them, but to have done so with those on the door frames would have rendered them anything but presentable objects as settings to their *mihrabs*—the chief features of interest and honour in a mosque. Hence they almost invariably had them made to order, the workmen—Hindus—knowing of no other suitable design than that of their own temple doorways minus the figures.

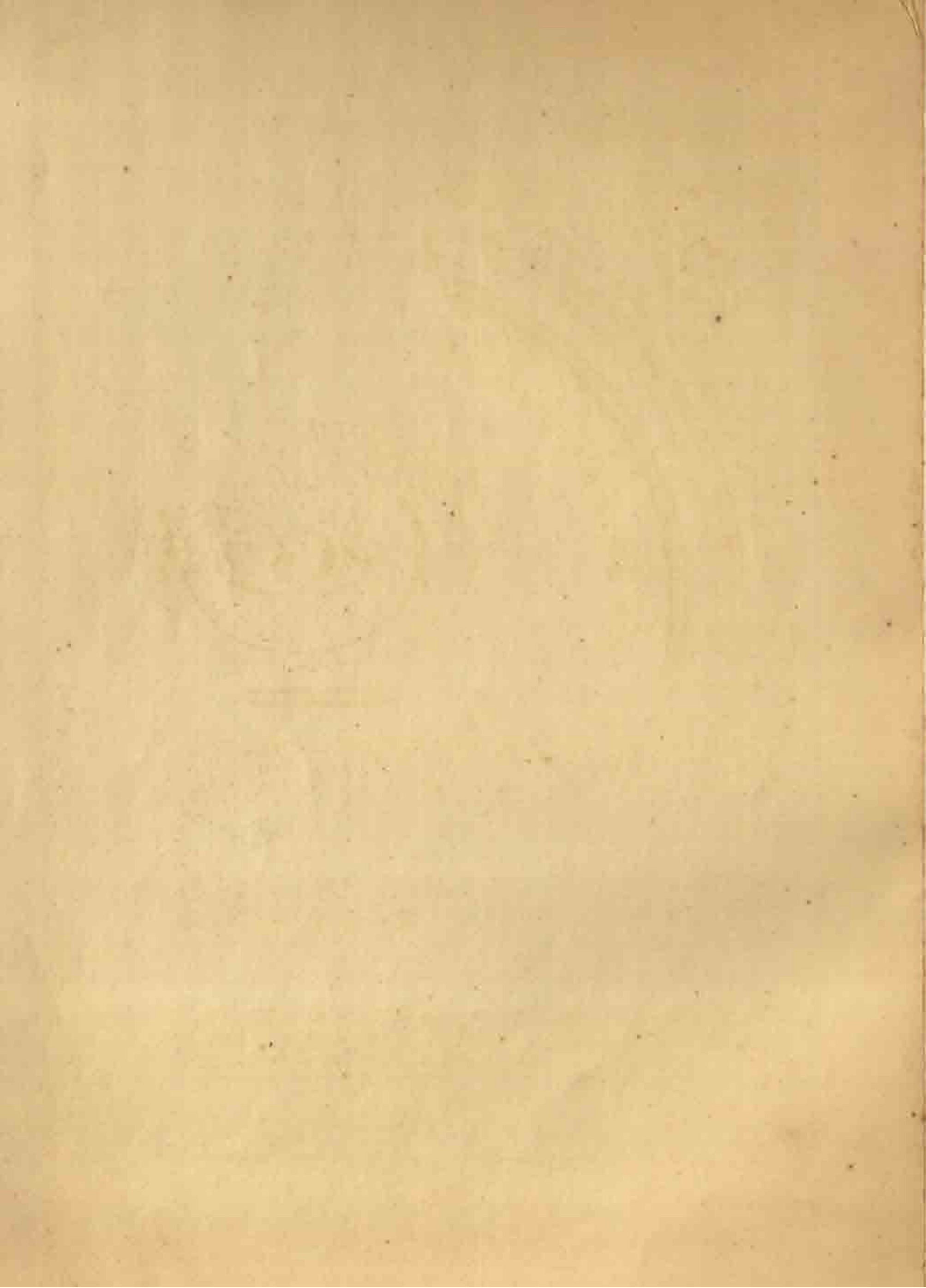
The boss on Plate V is from a niche in the wall of the colonnade of the mosque. Some very fine bosses of this kind are found, carved in high relief, in the niches of some of the minars of the Ahmedabad mosques. It is needless, almost, to say that they are Hindu, too.

H. COUSENS.

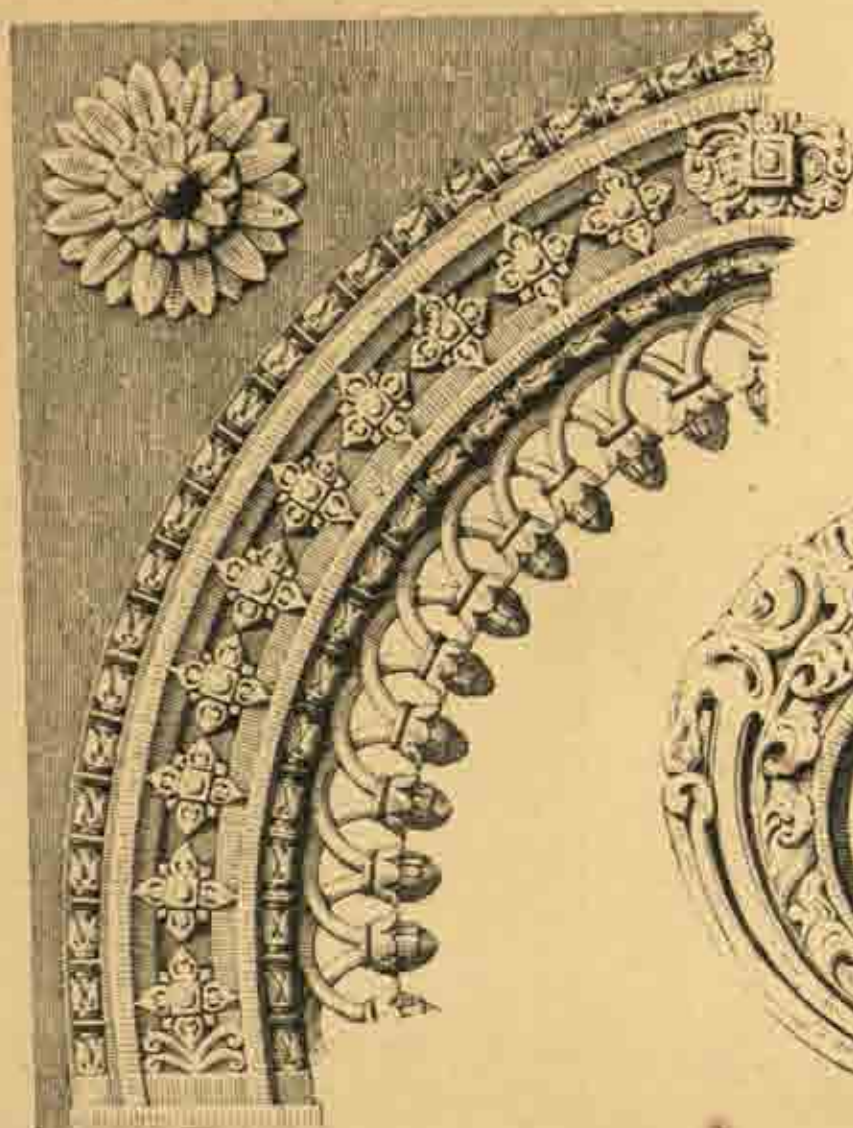
GOVT. ARCHAEOLOGICAL SURVEY OF WESTERN INDIA, NO. 2028



MIHRAAB FROM RUINED MOSQUE AT BRANDOL, KHARDESH, BOMBAY



Govt. ARCHAEOLOGICAL SURVEY OF WESTERN INDIA, No. 1039.



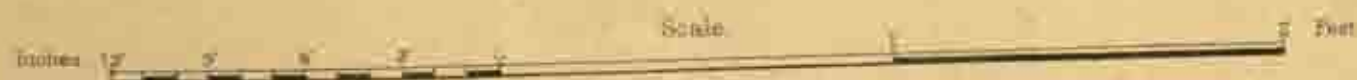
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STONE COURSES



DETAILS FROM MIHRAB OF A RUINED MOSQUE AT ERANDOL KHANDESH, BOMBAY

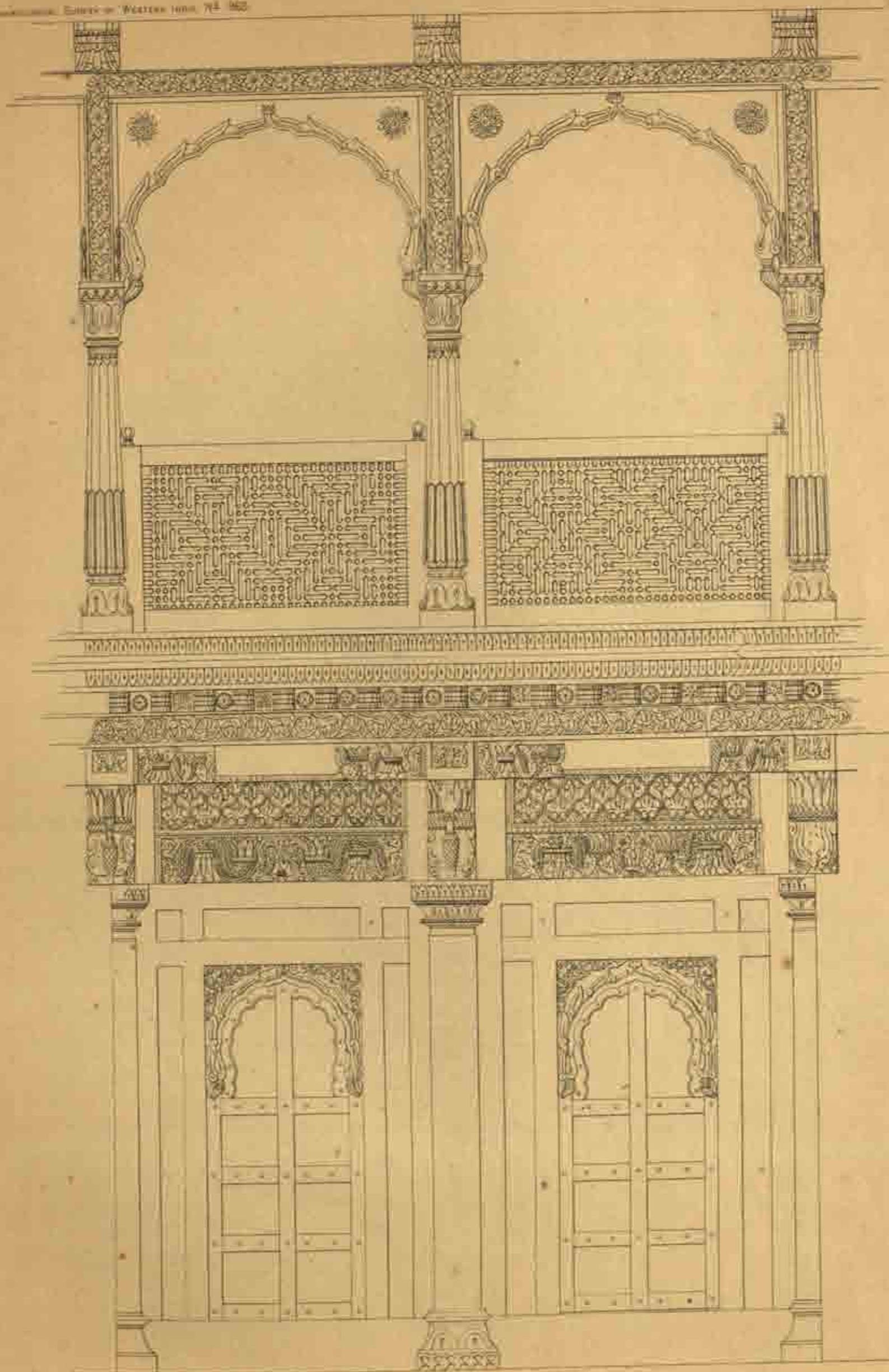
PLATE VI.

PART OF FACADE IN WOOD CARVING FROM A
HOUSE AT SRIGUNDA, AHMADNAGAR DISTRICT,
BOMBAY.



THIS plate represents part of the same building as that illustrated in plates XII and XIII of the Technical Art Series for 1892, and the remarks on "Old Wood Carving" in the text accompanying those plates apply also to it.

No. 1. Ahmednagar, District of Western India, No. 1883.



Scale. 1/2" = 1' Part of Wall. 1/2" = 1' Foot.

WOOD-CARVING FROM A HOUSE AT KATJEDA AHMEDNAGAR DISTRICT. BOMBAY

Survey of India Office, Calcutta, June 1883

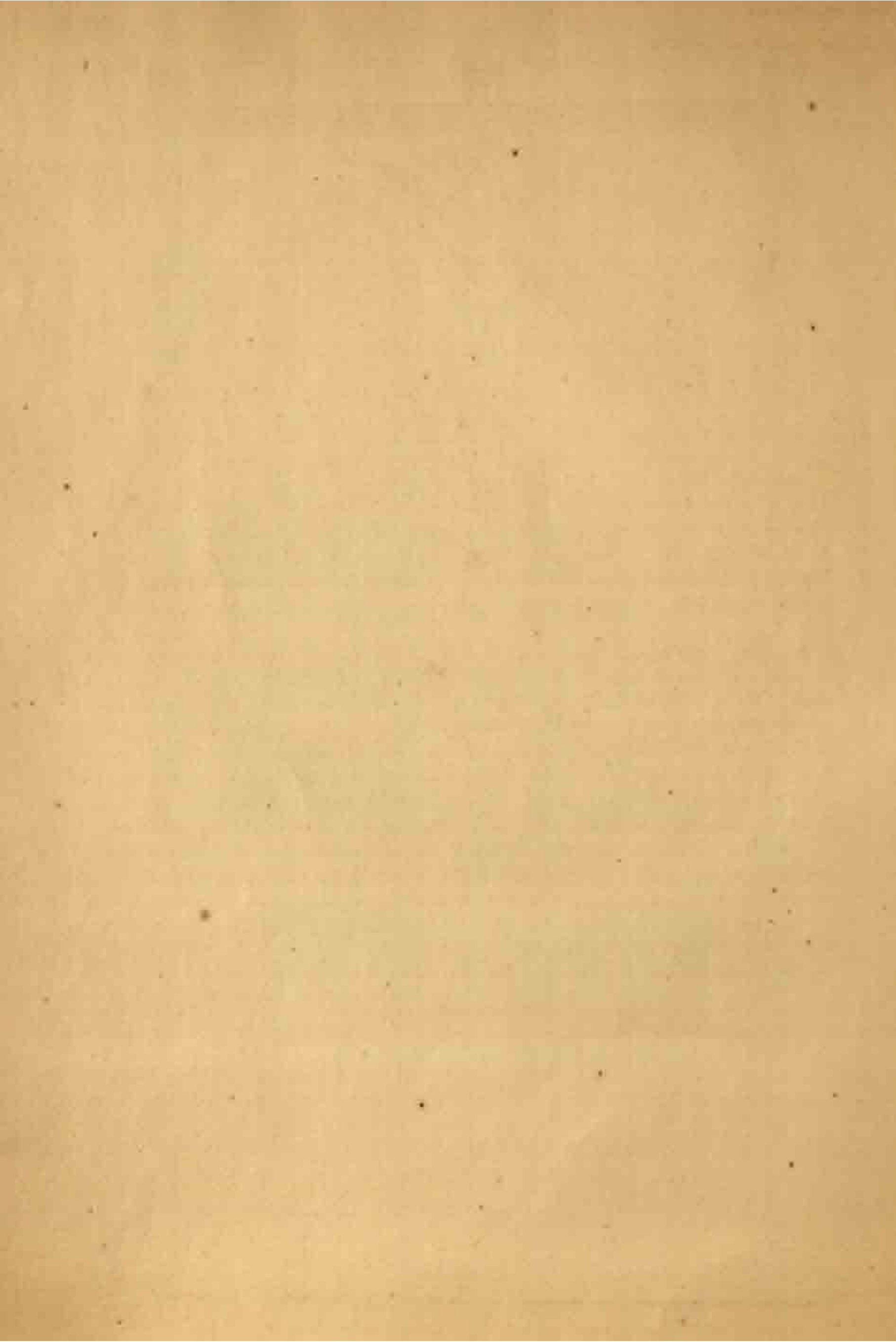


PLATE VII.

DETAIL OF PATERA, JODH BAI'S PALACE, FATEHPUR SIKRI.

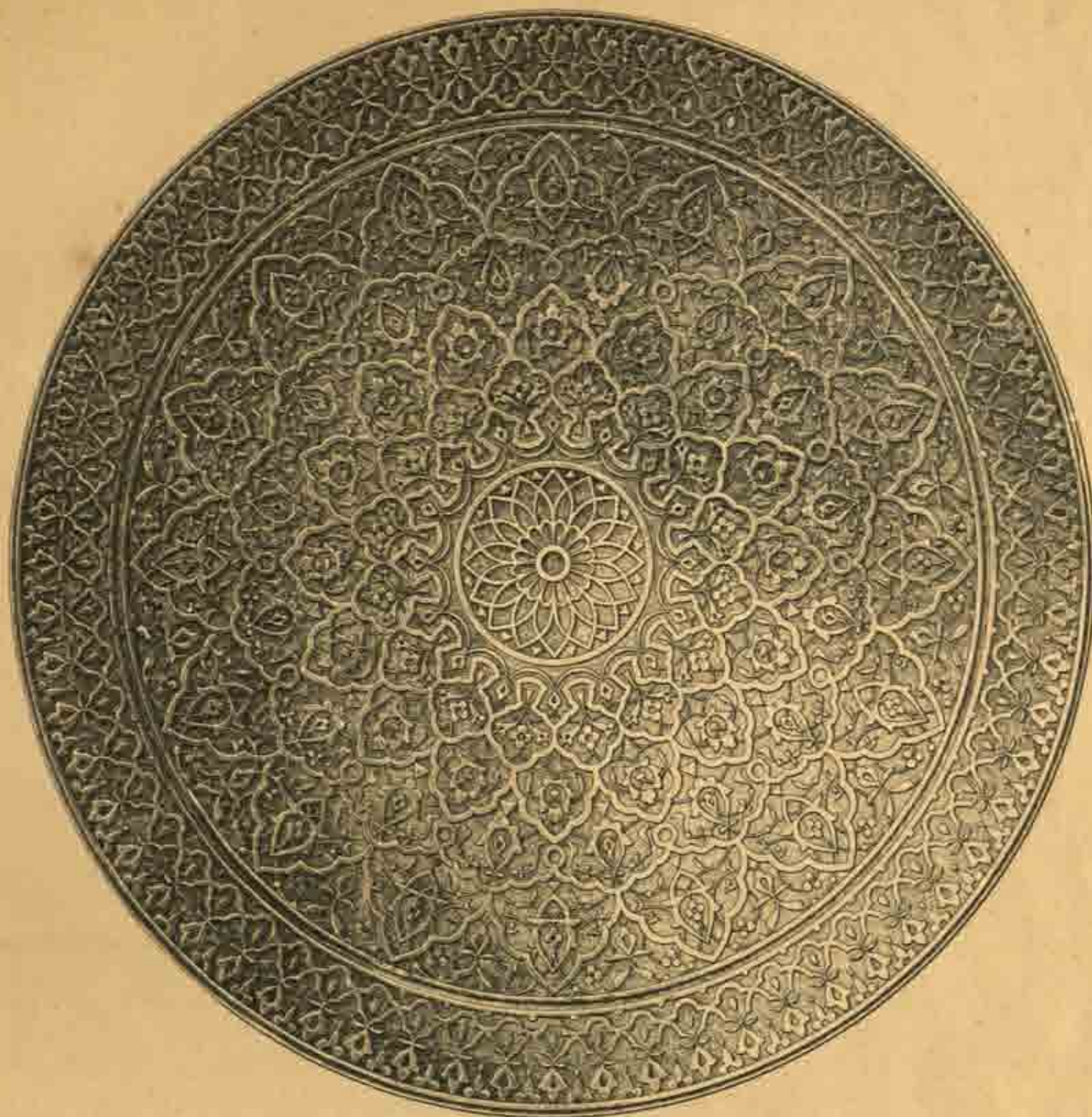
IN the volume for 1891 were published several plates illustrative of the Moghul Architecture of Fatehpur Sikri, a report on which by the Archaeological Survey of India is now in the press. Plates VII to XII inclusive, tend further to illustrate the style, and are taken from the palace erected by Akbar for his chief queen, and now commonly and erroneously known as "Jodh Bai's Mahal". It is one of the earliest and largest of the buildings gracing the city and is built entirely of red sand stone quarried some few miles off. It is remarkable on account of the strong Hindu feeling pervading the whole design.

Externally it measures $215' 0'' \times 232' 0''$. Inside is a quadrangle $179' 0'' \times 162' 0''$ surrounded by suites of rooms $27' 0''$ in depth. At each angle is a double-storied apartment covered by a dome and it is from the underside one of these that the beautiful medallion illustrated on Plate VII is taken. It is executed in plaster, and measures $7' 3''$ in diameter. In section it is concave, and the ornament is in relief. The field is charmingly carved with an elaborate and very delicate scroll intermingled with leaves and flowers in low relief, and upon this ground a second and bolder pattern reposes. It is in four tiers and each becomes smaller as it approaches the centre of the medallion in which is a small kaleidoscope-like rosette. Around the outer tier is a border $8\frac{1}{2}''$ in width richly carved with floral ornament. The design savours a good deal of Moorish work.

The style of decoration is frequently met with at Fatehpur Sikri. Judging from unfinished portions one comes across in some of the buildings, the patterns appear to have been sketched upon the finished face of the plaster when dry and then very carefully carved afterwards. In many instances they have been painted in rich and brilliant colours. This was probably the case with the one before us, but unfortunately, like much of the other decoration in the building, it has been only too liberally coated with whitewash.

ED. W. SMITH.

Genl. AMERSON, Survey R. W. P. 1892 & 1893. No. 355.



Scale

Inches 12 10 8 6 4 2 0 Feet

DETAIL OF PATERA, JODH BATS PALACE, FATEHPUR SIKRI



PLATES VIII AND IX.

DETAIL OF ORNAMENTED JALI-BALUSTRADES AND PANEL, JODH BAI'S PALACE, FATEHPUR SIKRI.

THESE two plates afford samples of the *Jali* or stone screen-work, for which the city of Fatehpur Sikri is so notorious.

Figs. 1 and 7 on Plate VIII, and Figs. 1, 2, 3 on Plate IX, are balustrades around the small-domed pavilions in front of the upper floor rooms, upon which the royal occupants of the palace were wont to sit and lounge in the cool of the evening. In height they are 1' 6" and in thickness 3".

Fig. 8 is a stone panel, 2' 7" in length by 1' 5½" in width, projecting about half an inch from the gable wall, on the interior side, of one of the long rooms on the second floor roofed by blue glazed tiles. The decoration is in relief and projects about ⅜th of an inch from the face of the panel. In the centre is a well-cut circular and sunk leaf rosette in two tiers encircled by a small chaplet of beads, beyond which is a broad belt of filigree ornamentation, whilst the corners of the panel are filled up with leafage. The design could be utilized by workers in brass, wood-carvers, and gold and silver-smiths.

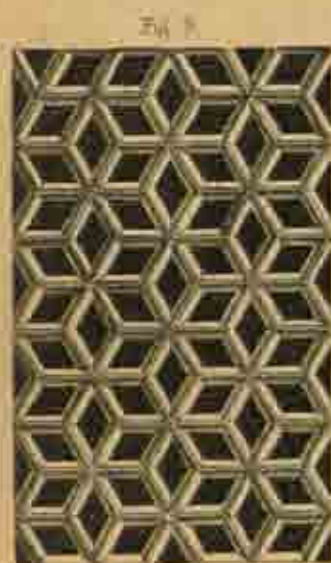
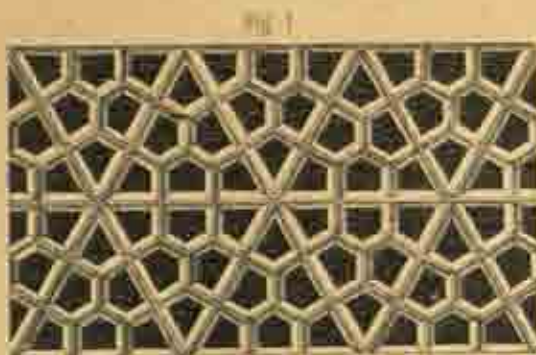
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PLATE IX.

DETAILS OF JALI-BALUSTRADE AND SCREEN WORK IN HAWA MAHAL, JODH BAI'S PALACE, FATEHPUR SIKRI.

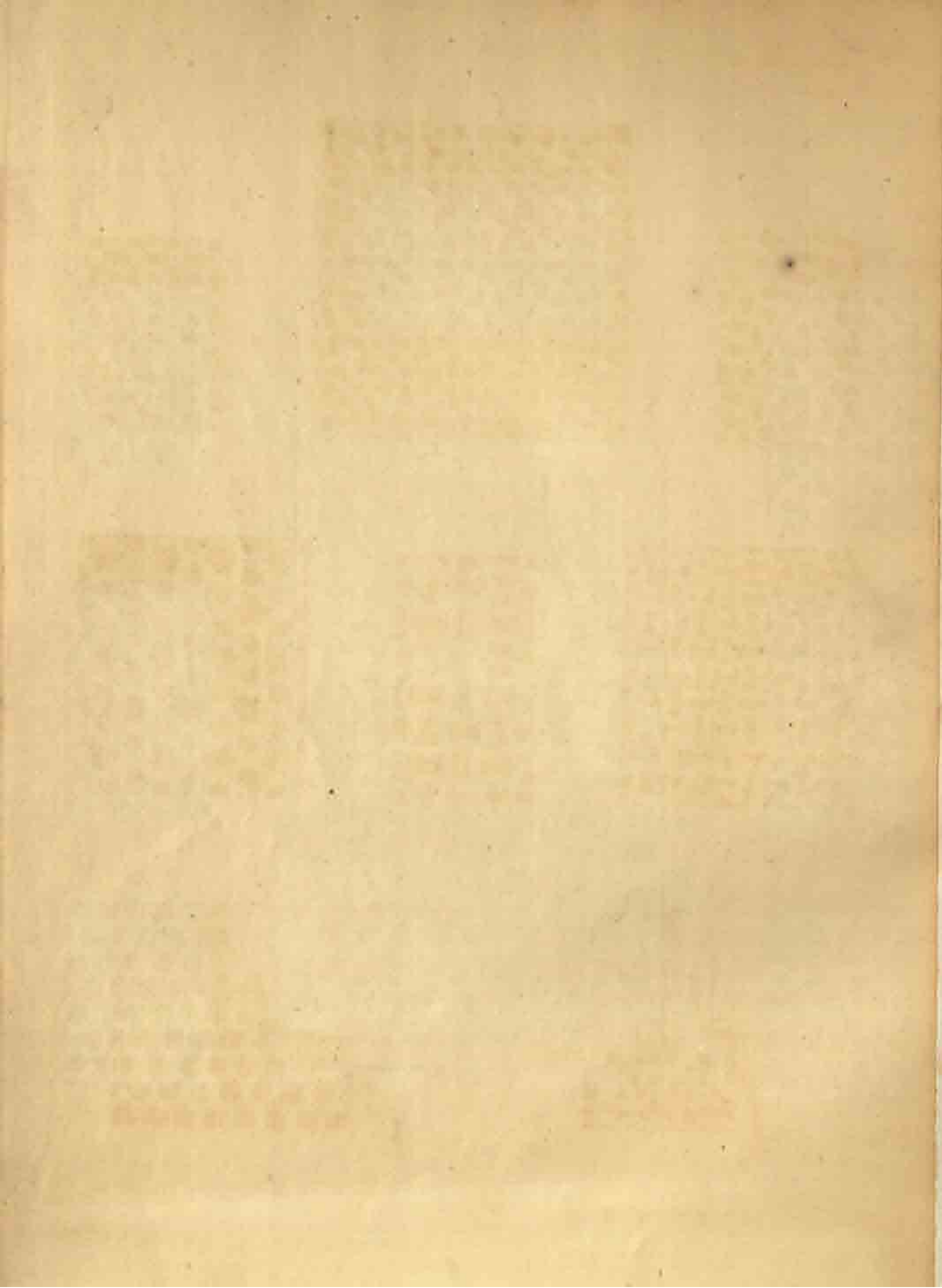
PLATE IX (Figs. 4, 5, 6, 7, 8) exemplifies the screens enclosing the sides of the Hawa Mahal. The patterns are pierced out of solid slabs of stone, $2\frac{1}{2}$ " in thickness and of various sizes, according to the intercolumniation of the piers. Some measure 7' 6" in height by 5' 8" in width. The bars are flat in section and are chamfered both sides and measure $\frac{3}{4}$ " in thickness. The piers are surmounted by bracket capitals and at the top the screens are shaped to fit in the space between brackets. In that shown in Fig. 7 two small birds have been introduced, which, strange to say, have escaped the hands of the iconoclasts, who, after Akbar's demise, did so much damage to the carvings in the Turkish Sultana's house and elsewhere.

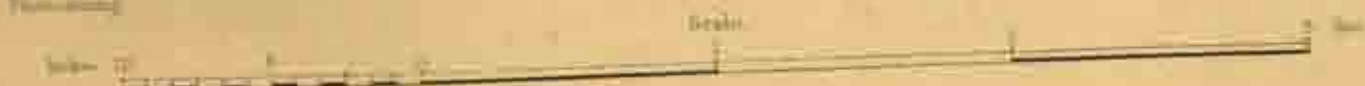
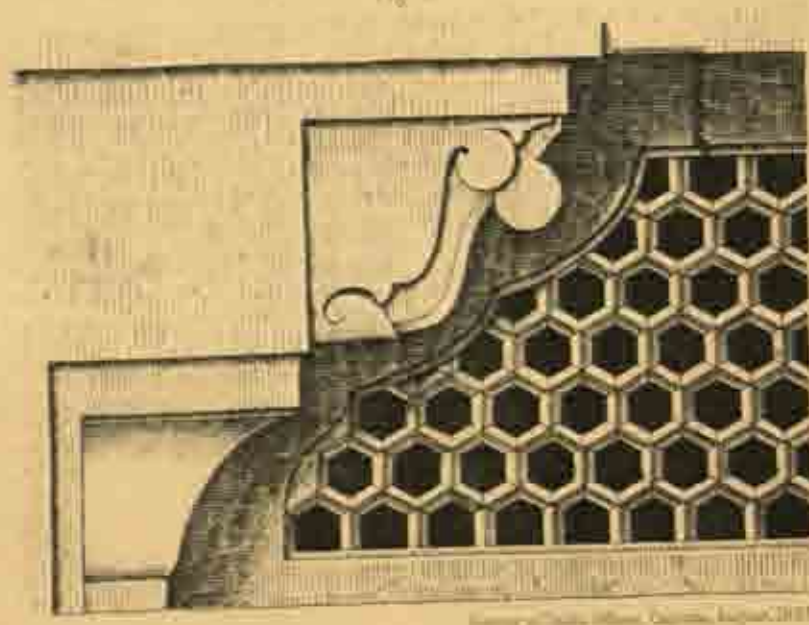
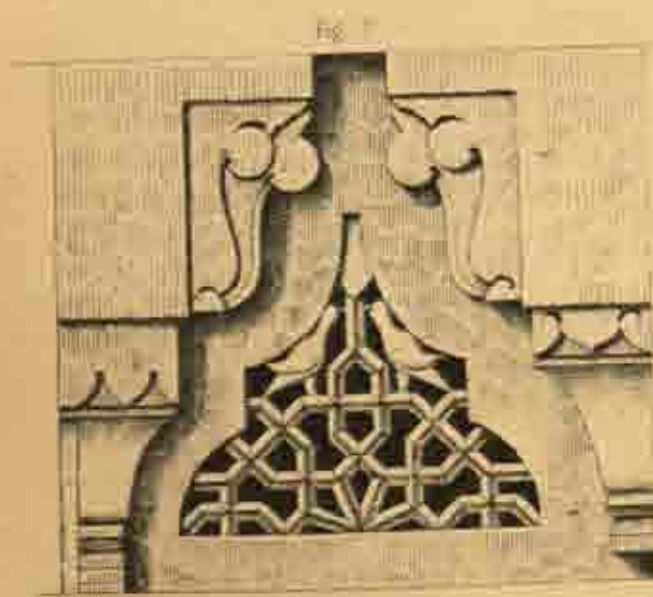
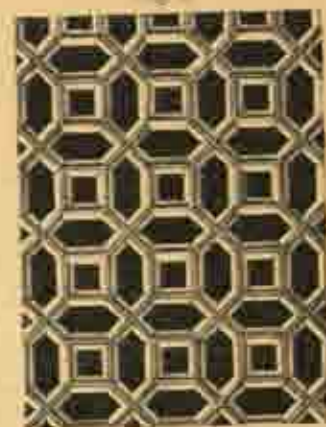
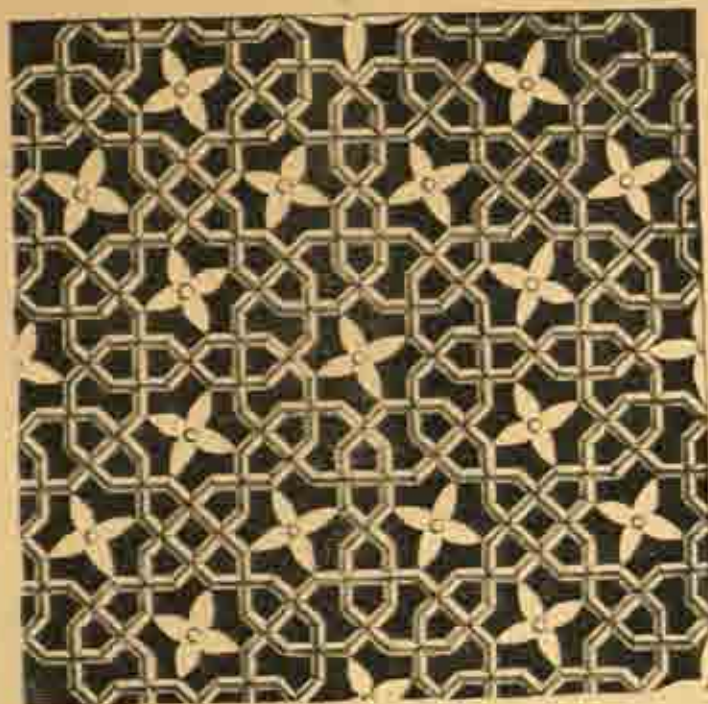
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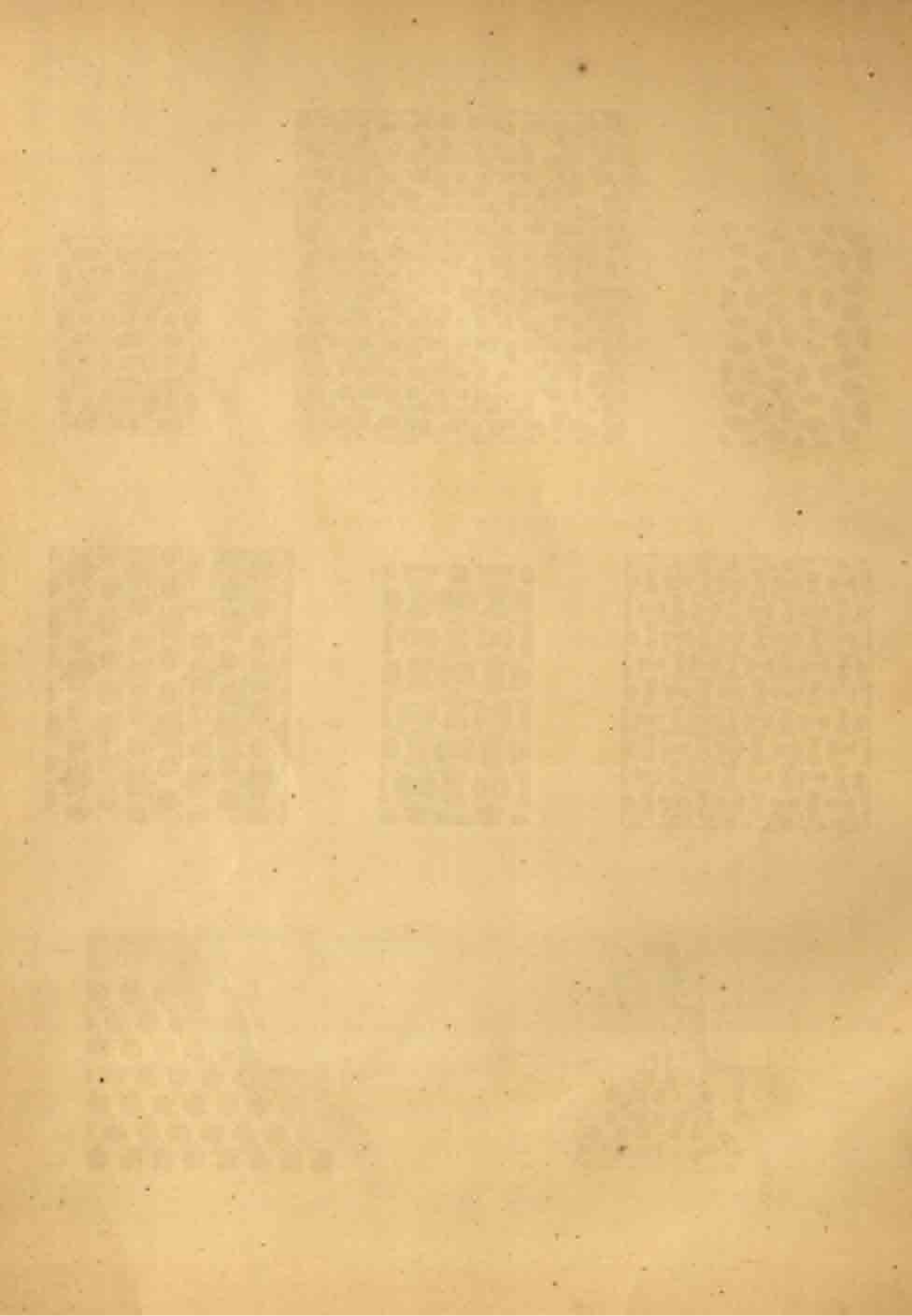
Scale of Fig. 1 to 7.

Scale of Fig. 8.





FIGS 1 TO 3, DETAIL OF WALL PALMSTRAND. FIGS 4 TO 5, DETAIL OF SCREEN WORK IN HANVA MAHAL, JODH BAII PALACE, FATEHPUR SIKRI.



REPORT
OF THE
COMMISSIONER OF THE
LAND OFFICE
FOR THE YEAR 1887

The following report was presented to the Senate and House of Representatives at the opening of the session on January 15, 1888.

It contains a full and complete statement of the work of the Land Office during the year 1887, and also a statement of the condition of the public lands at the close of the year.

The report is divided into two parts, the first of which contains a general statement of the work of the Land Office, and the second of which contains a statement of the condition of the public lands.

The first part of the report is divided into three chapters, the first of which contains a statement of the work of the Land Office during the year 1887, the second of which contains a statement of the condition of the public lands at the close of the year, and the third of which contains a statement of the work of the Land Office during the year 1888.

The second part of the report is divided into two chapters, the first of which contains a statement of the condition of the public lands at the close of the year 1887, and the second of which contains a statement of the work of the Land Office during the year 1888.

PLATE X.
DETAIL OF WINDOW, JODH BAI'S PALACE,
FATEHPUR SIKRI.

PLATE X illustrates one of the screened windows from the rooms in the second floor. It measures 4' 7" across and is 6' 8" in height. It is divided into six compartments by a central mullion and transomes, and each is filled in with open reticulated stone tracery.

The designs in the two middle compartments assimilate and are common, but those in the upper and lower are not often met with. The glare of the sun is prevented from entering the chamber by a deep drip stone over the top of the window supported on small serpent brackets. The parapet is carved in imitation of an embattlement.

ED. W. SMITH.



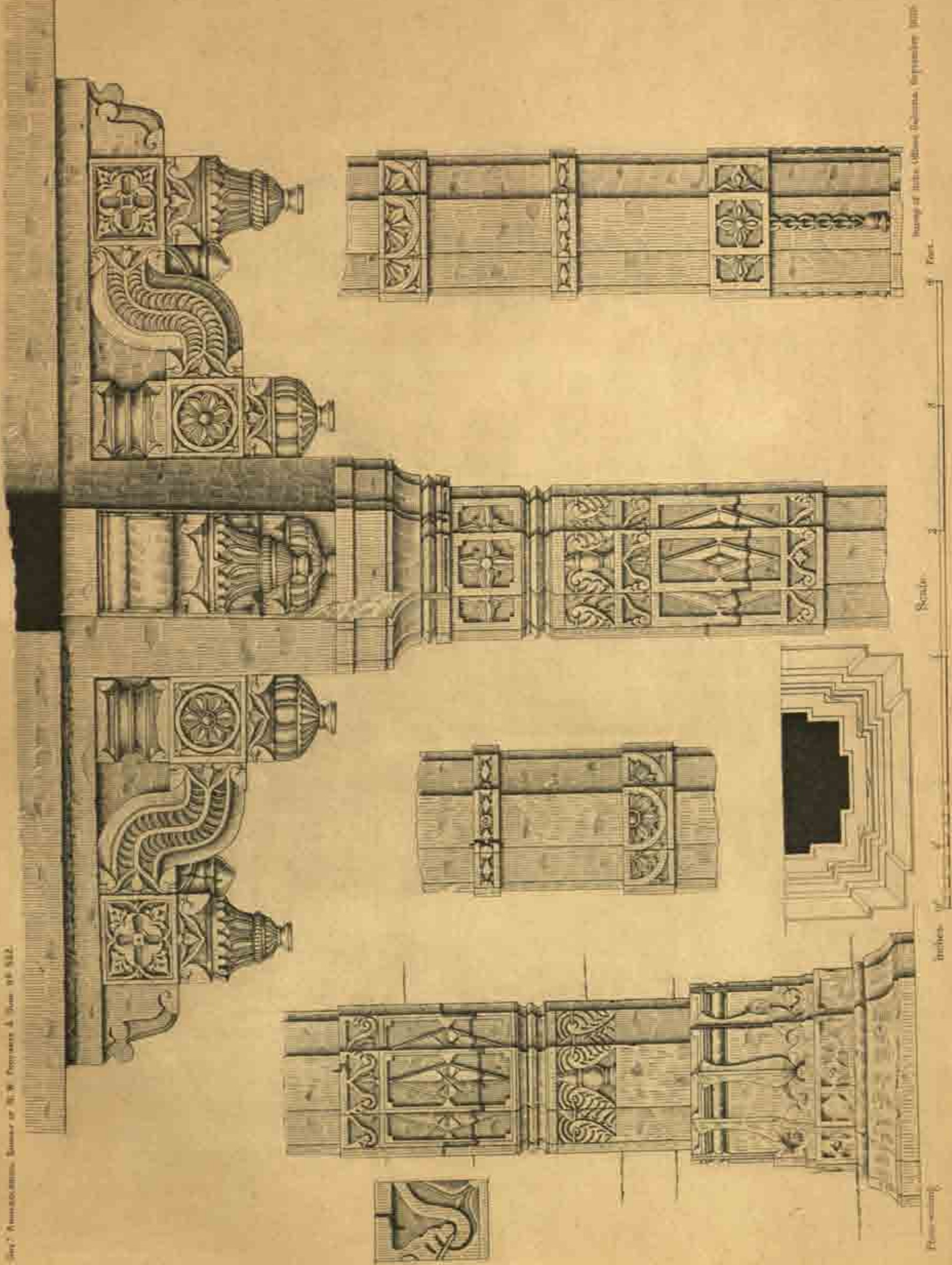
PLATE XL

DETAIL OF SHAFT IN RECEPTION ROOM, JODH
BAI'S PALACE, FATEHPUR SIKRI.

DETAILS of the columns and pilasters in the hall into which the balconette illustrated on Plate XII looks are exemplified here.

From the plan shown at the bottom of the drawing it will be seen they are of a broken square form, a shape frequently used by Hindus in their buildings, and the one adopted for the columns throughout the Great Mosque in the enclosure of which lies buried Sheikh Salim Chishti owing to whose influence, it is said, Akbar came to build Fatehpur Sikri. The shafts are bound at intervals by projecting bands variously ornamented with half-lotus rosettes, small lozenges and pellets, etc., whilst upon the front faces one sees the bell and chain, a most favourite symbolical ornament amongst Hindus and found carved upon their earliest edifices. At top and bottom the shafts break forward and are moulded, panelled, and carved with crude angle volutes and urns. The bases are moulded and stand upon a plinth, whilst a plain capital crowns the top of the column and upon it rests a heavy three-armed bracket supporting stone beams carrying the stone ceiling above. The brackets are richly carved and are seen in both front and side elevation upon the drawing. Sections giving the various projections of the mouldings, depth of carving, etc., are shown in hatched lines upon the elevations.

ED. W. SMITH.



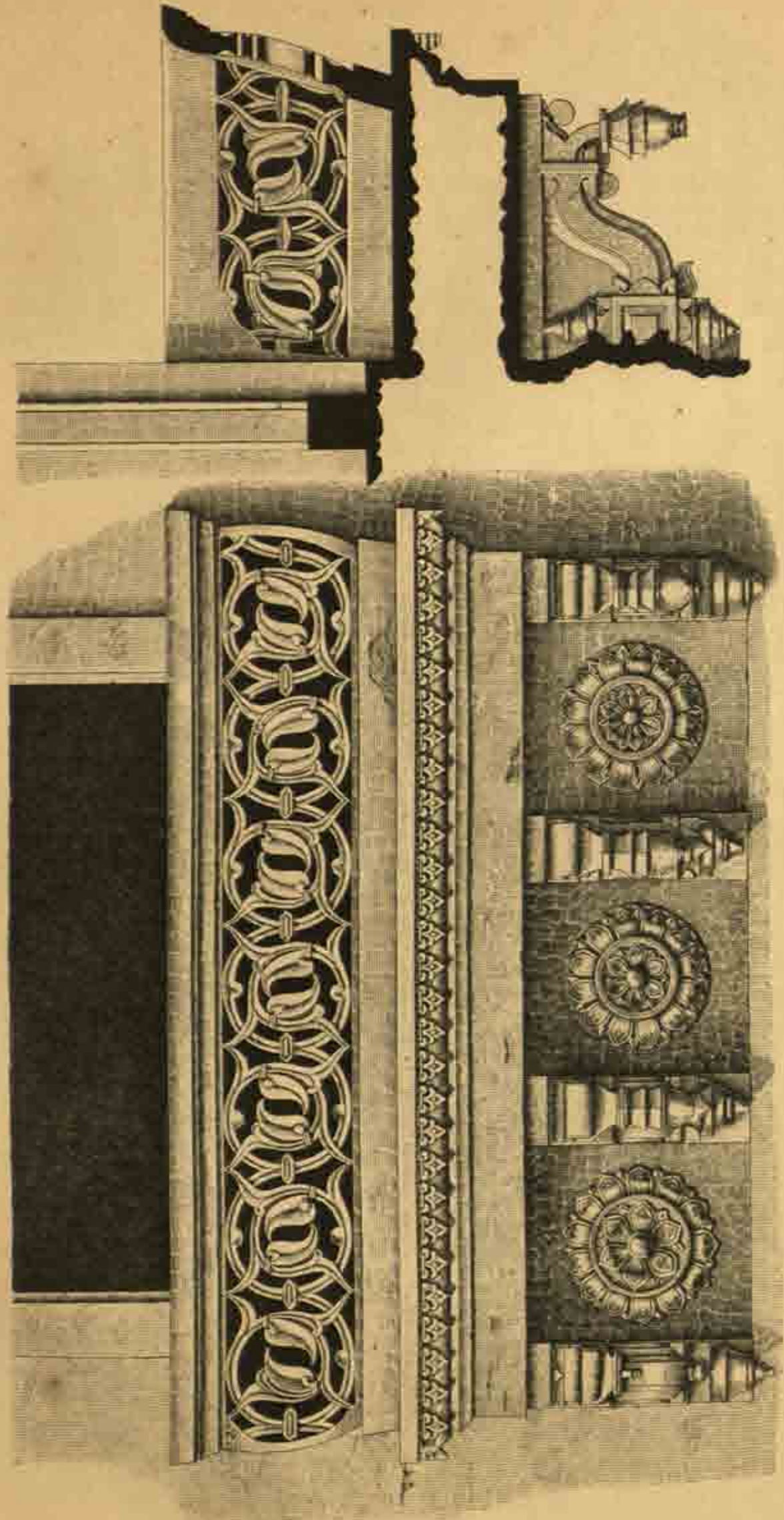
DETAIL OF SHAFT IN RECEPTION ROOM, JUDAH HAIB PALACE, KATHMENDU, NEPAL.

Drawing of J. H. Rogers, September 1893.

PLATE II

THE GREAT HALL OF THE PALACE
OF THE EMPEROR

The Great Hall of the Palace of the Emperor is a large and magnificent building, situated in the heart of the city. It is the place where the Emperor holds his court, and where the most important business of the empire is transacted. The hall is decorated with the most precious materials, and is filled with the most beautiful works of art. The Emperor's throne is placed at the far end of the hall, and is surrounded by a high and ornate canopy. The hall is open to the public, and is a place of great interest to all who visit the city.



Inches 12" 6" 4" 2" 1" 1/2" 1" 1/4" 1" 1/8" 1/2" 1/4" 1/8" 1/16" 1/32" 1/64" 1/128" 1/256" 1/512" 1/1024" 1/2048" 1/4096" 1/8192" 1/16384" 1/32768" 1/65536" 1/131072" 1/262144" 1/524288" 1/1048576" 1/2097152" 1/4194304" 1/8388608" 1/16777216" 1/33554432" 1/67108864" 1/134217728" 1/268435456" 1/536870912" 1/1073741824" 1/2147483648" 1/4294967296" 1/8589934592" 1/17179869184" 1/34359738368" 1/68719476736" 1/137438953472" 1/274877906944" 1/549755813888" 1/1099511627776" 1/2199023255552" 1/4398046511104" 1/8796093022208" 1/17592186044416" 1/35184372088832" 1/70368744177664" 1/140737488355328" 1/281474976710656" 1/562949953421312" 1/1125899906842624" 1/2251799813685248" 1/4503599627370496" 1/9007199254740992" 1/18014398509481984" 1/36028797018963968" 1/72057594037927936" 1/144115188075855872" 1/288230376151711744" 1/576460752303423488" 1/1152921504606846976" 1/2305843009213693952" 1/4611686018427387904" 1/9223372036854775808" 1/18446744073709551616" 1/36893488147419103232" 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- I.—Panel and Ornaments on Piers, Rāmasvami Temple, Kumbakonam, Tanjore District.
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- IV & V.—Mihrab from ruined Mosque at Erandol, Khandesh.
- VI.—Part of Facade in Wood Carving from a house at Srigunda, Ahmadnagar District, Bombay.
- VII.—Detail of Patera, Jodh Bai's Palace, Fatehpur Sikri.
- VIII & IX.—Detail of Ornamented Jali-Balustrades and Panel, Jodh Bai's Palace, Fatehpur Sikri.
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- XII.—Detail of Balconette, Jodh Bai's Palace, Fatehpur Sikri.



1894.

PLATES I TO XIV.

TECHNICAL ART
SERIES

OF

ILLUSTRATIONS OF INDIAN ARCHITECTURAL
DECORATIVE WORK

FOR THE USE OF ART SCHOOLS AND CRAFTSMEN.

Reproduced in heliogravure from the original drawings made by the Officers of the
Archæological Surveys in India, at the Survey of India Offices, Calcutta,
and published under the authority of the Government of India.

SURVEY OF INDIA OFFICES, CALCUTTA.

1894.

Price Three Rupees Eight Annas.

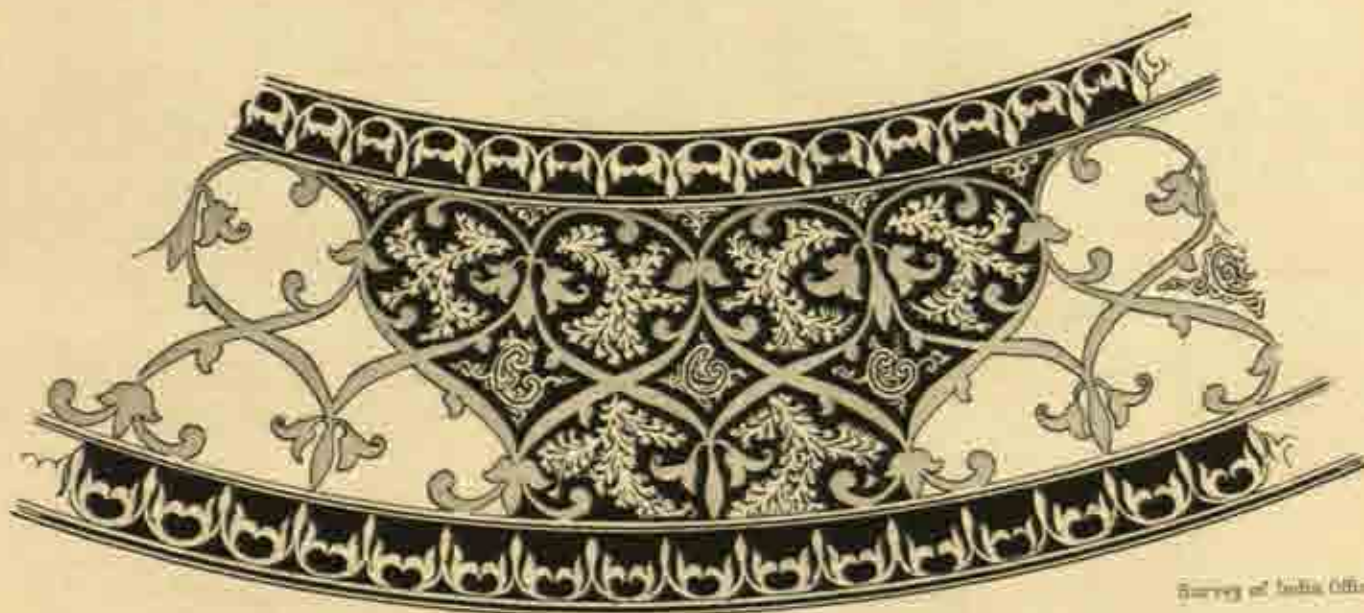
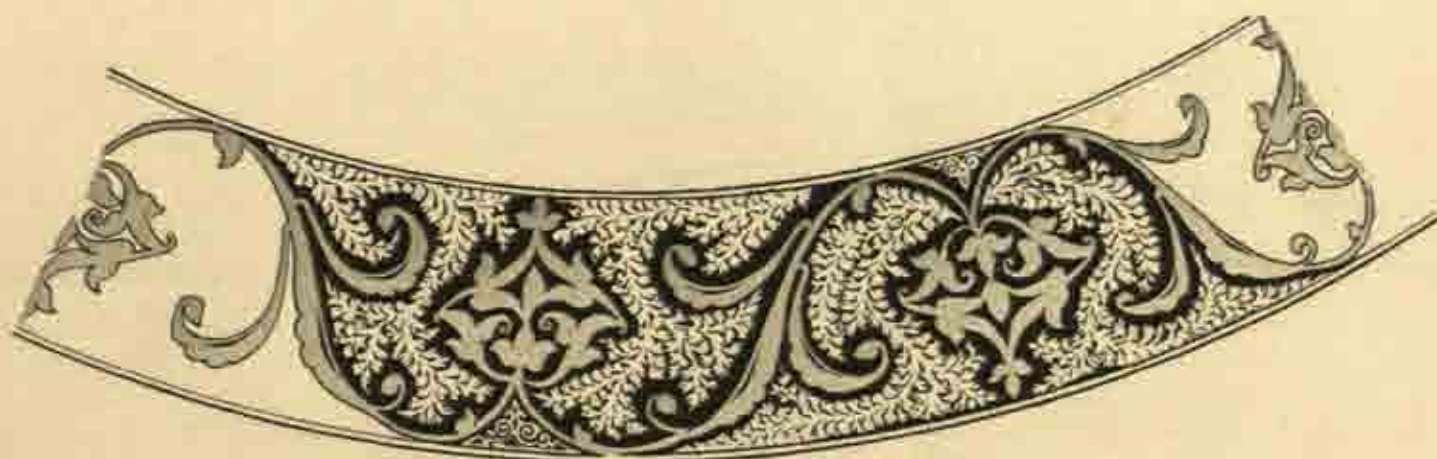
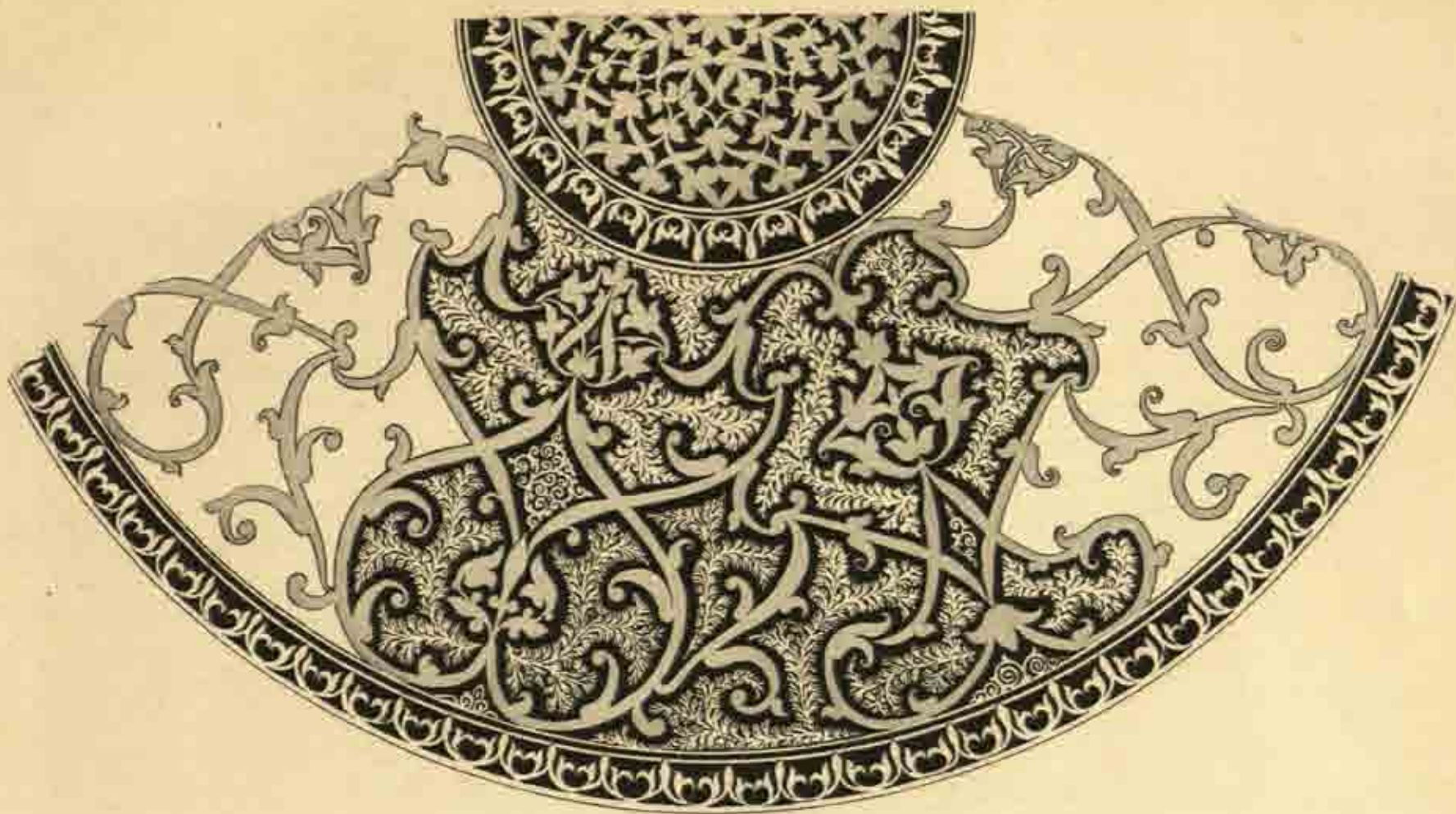
TECHNICAL ART SERIES OF 1894.

PLATE I.

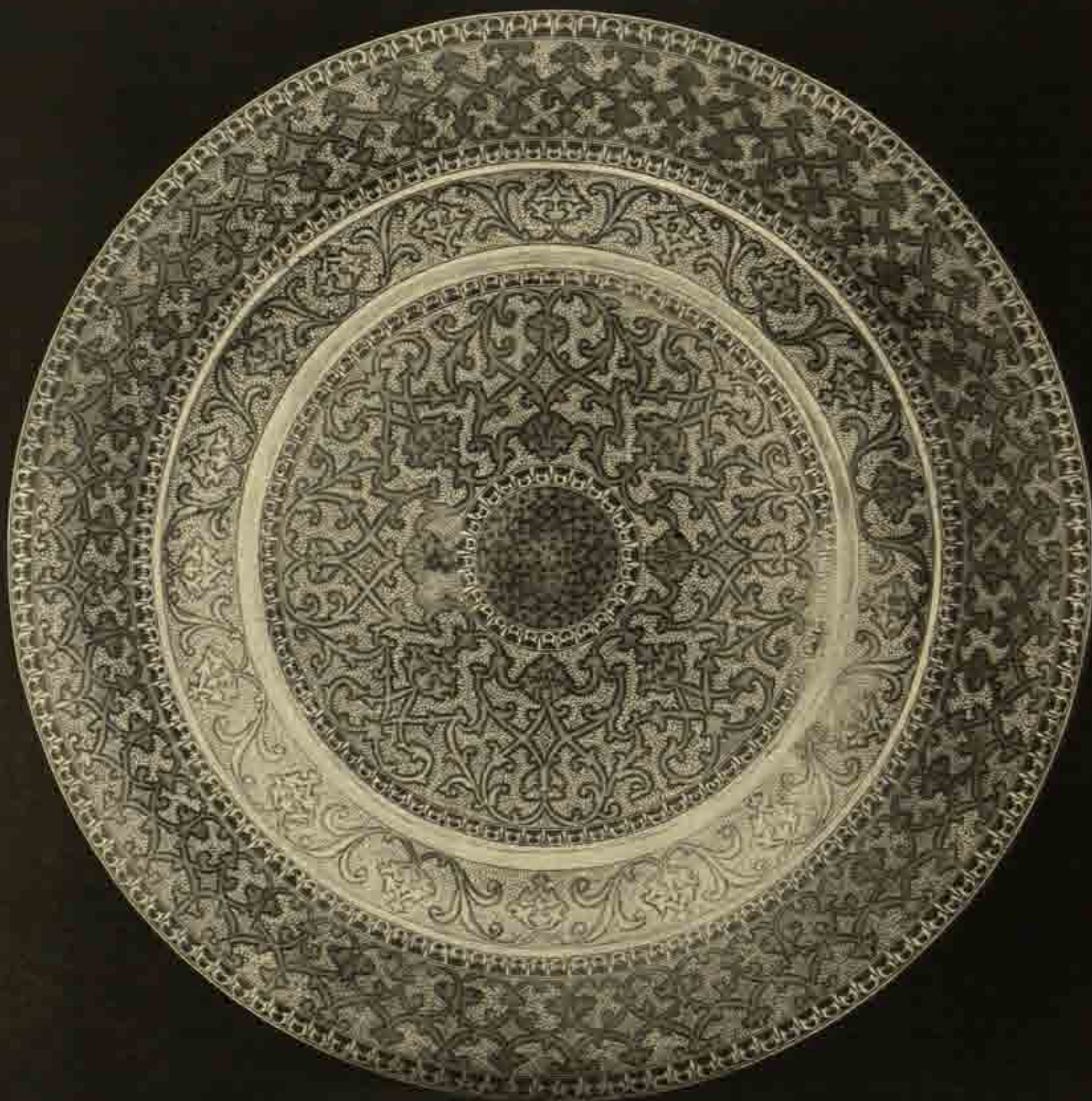
KOFT OR DAMASCENE WORK.

THIS art industry is not in a condition altogether satisfactory: it might be improved in its application, and in its method, especially by the restoration of the more ancient method of incised or deeply laid damascene. The Punjab work is all made by simply scratching the pattern on a steel or blued-iron surface, and then the fine gold wire which is caught and held in place for a short length at a time by the rough edges of the style scratch, is first hammered in (*koft*) and then rubbed down with an agate point (*mohari*). The work is of foreign (probably Persian) origin, and became popular in the Punjab, especially at Lahore, when the demand for inlaid arms and armour for the Sikh nobility was at its height, but the art seems to have been introduced long before that period, *vis.*, in Mahomedan times. The best workmen came from Kabul and beyond, and settled at Lahore, and a few of the class still remain, their work being superior both in taste and execution to that of Gujrat or Sialkot. Indeed, they only want to meet with encouragement in the way of good ancient models to copy or take ideas from, to produce excellent work. The modern workers, both at Gujrat and Sialkot, are injured by the want of some reasonable purpose to which to apply their art. At present they snatch at every European article, however worthless, in the shape of ornament, inkstand or platter to copy. Moreover the habit of bargaining and the beating down of prices compels the men to a cheap and superficial sort of work in which the gold is inferior and lightly applied and the design wanting in character, and too diffuse.

B. H. B.-P.



Survey of India Office Calcutta June 1884



Photomicrograph

SILVER INLAID GOLD & SILVER ON STEEL GROUND KOFTI WORK FROM KOTLI LOHARAN PUNJAB
Scale one-half

TECHNICAL ART SERIES, 1894.

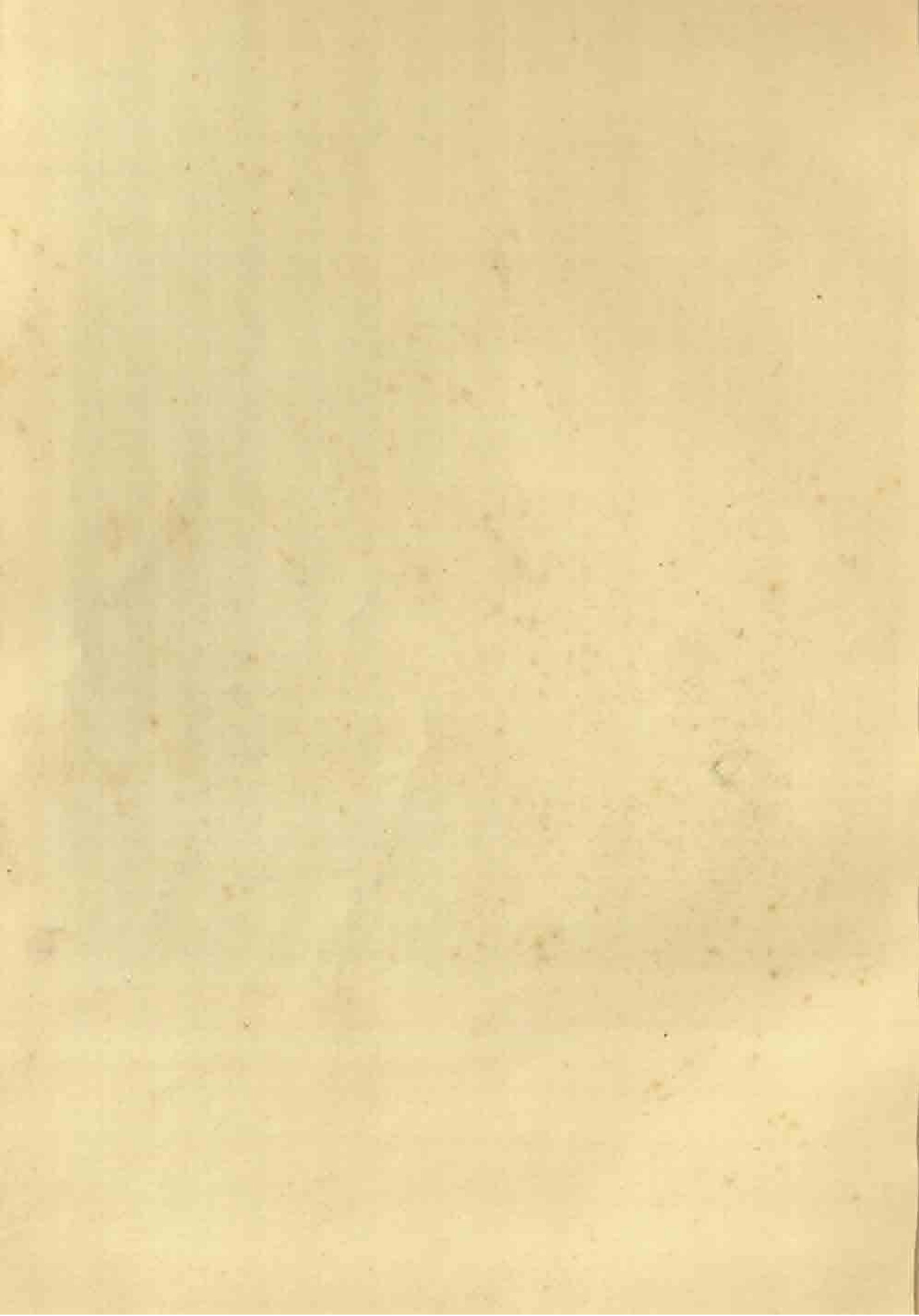
PLATE II.

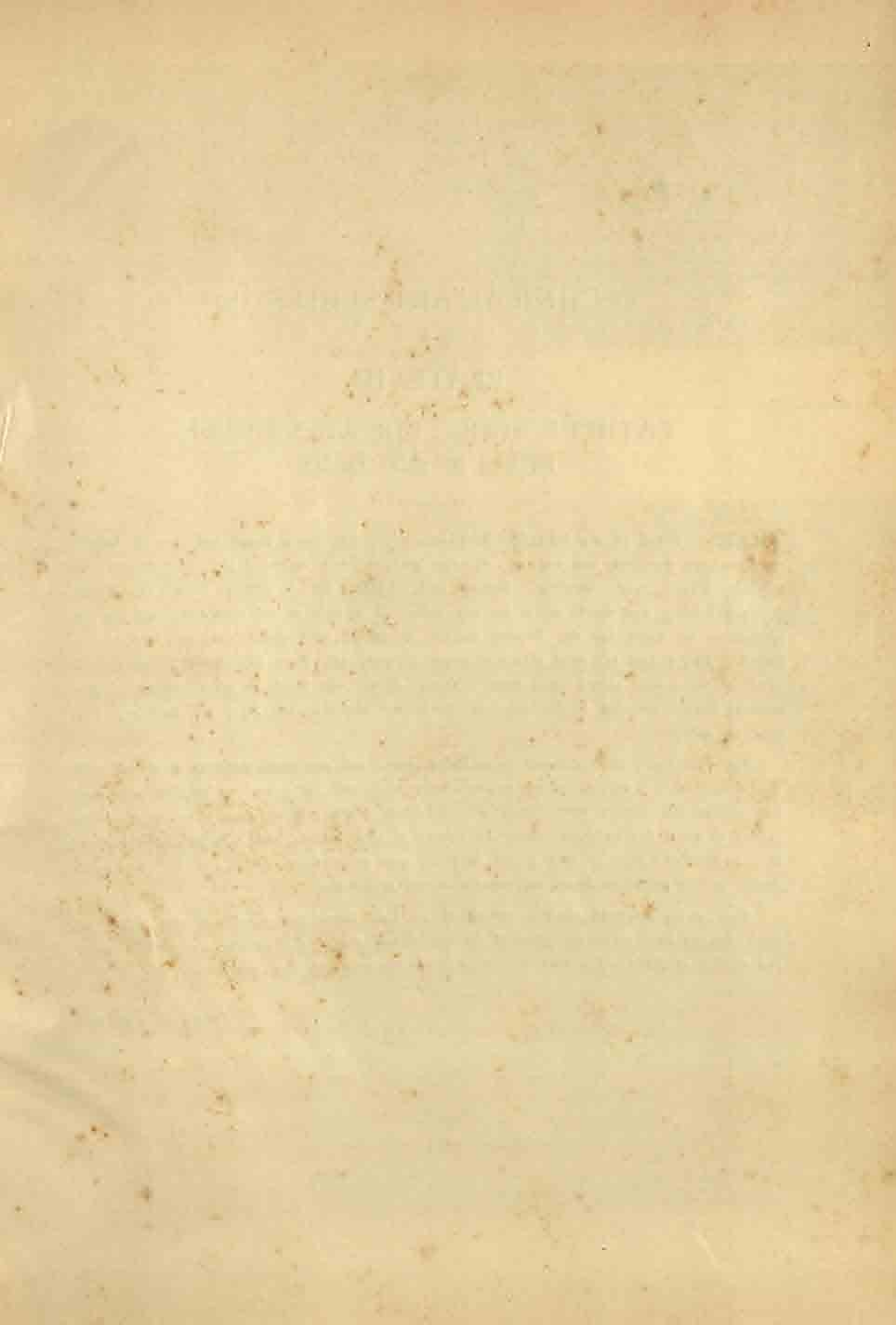
FATHPŪR SIKRĪ: "JODH BAI'S" PALACE. CEILING OVER THE NORTH-WEST ANGLE ROOM ON THE GROUND FLOOR.

IN Parts for 1891 and 1893 of the Technical Art Series, several plates illustrative of the Moghal Architecture of Fathpūr Sikrī appeared; and the plates we now give, numbered from II to VII, still further tend to illustrate the style. Those numbered from VII to XII of the part for 1893 were taken from "Jodh Bai's" palace, one of the earliest and largest of the numerous buildings adorning the city; which will ever be associated with the name of the great Akbar. Plate II of this year's issue is from the same residence, and it should be studied along with Plate VII of last year's part, which shows a medallion from one of the upper chambers standing at the angles of the court-yard. It represents the centre-piece of the ceiling in the room below that from which the medallion was taken. It measures about 6' 7" each way, but is not quite square. Like the medallion it is in stucco, and the pattern was first carefully drawn on the finished face of the plaster, and afterwards cut out. The style of work is the same as that upon the medallion, but the design is different. The field is similarly worked with a delicate and dainty scroll, entwined in and out amongst leaves and flowers in low relief, and reposing upon this, and covering the entire face of the panel, is a diaper, the variegated lines of which predominate over those of the scroll beneath. Enclosing the panel is a 10" border carved in keeping with the work within. All the carving is quite flat, but is raised one sixteenth to an eighth of an inch above the surface of the panel.

The design is of exceptional beauty and is admirably adapted for many purposes. Among artificers it could advantageously be used by gold and silver-smiths and workers in brass and iron, as well as for wood-carvers. The style of ornamentation was extensively used amongst the Moors in their best decorative works.

EDMD. W. SMITH.





TECHNICAL ART SERIES, 1894.

PLATE III.

FATHPÛR SIKRÎ: BÎR BAL'S HOUSE. DETAILS OF DADO PANELS.

PLATES III and IV are from Bîr Bal's house. Bîr Bal was a Hindû and one of Akbar's favourite ministers, and one of the few grandees who embraced the new religion his imperial master was founding. Setting aside "Jodh Bai's" palace, it is the largest domestic building now extant within the city walls. It is built of red sand-stone, and like the apartments set aside for the Turkish Sultana, is carved both inside and out, from top to bottom. The dadoes are most elaborate pieces of work, and Plate III affords an example of some of the panels carved upon these. Nearly all are surrounded by broad borders of geometrical tracery, bounded at the sides by handsome pilasters (see Plate V) extending from floor to ceiling.

Fig. 1 is from the north-west upper floor room, and the panel measures 2' 0" by 4' 1". The design, as the drawing shows, is a geometric one, and the ground is studded with small leaf rosettes, the borders being carved with undulating scrolls. Great pains were taken by the carvers to avoid any harshness about the corners of their borders, and it is noticeable how well they succeeded. Figs. 2 and 3 are from the east ground-floor room, and like the panels shown on the preceding figure are wrought in red sand-stone.

The carving is raised about a quarter of an inch above the ground of the panel, and floral designs have taken the place of the geometrical ones. The borders are much narrower, and in lieu of the scroll a kind of "dog-tooth" ornament has been substituted.

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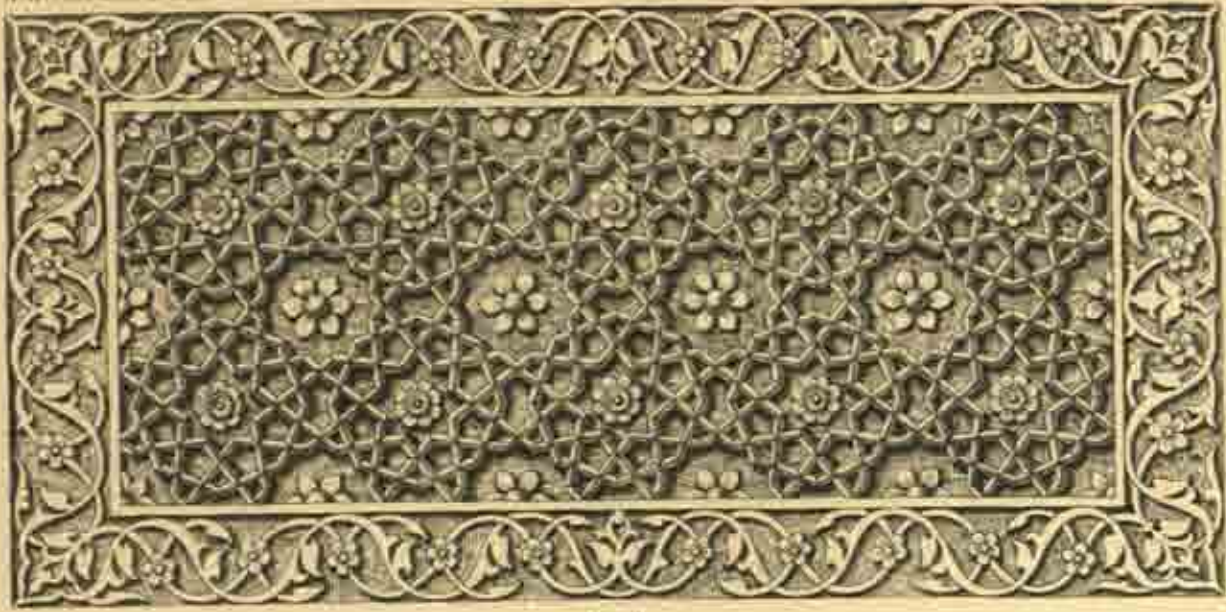


Fig. 1

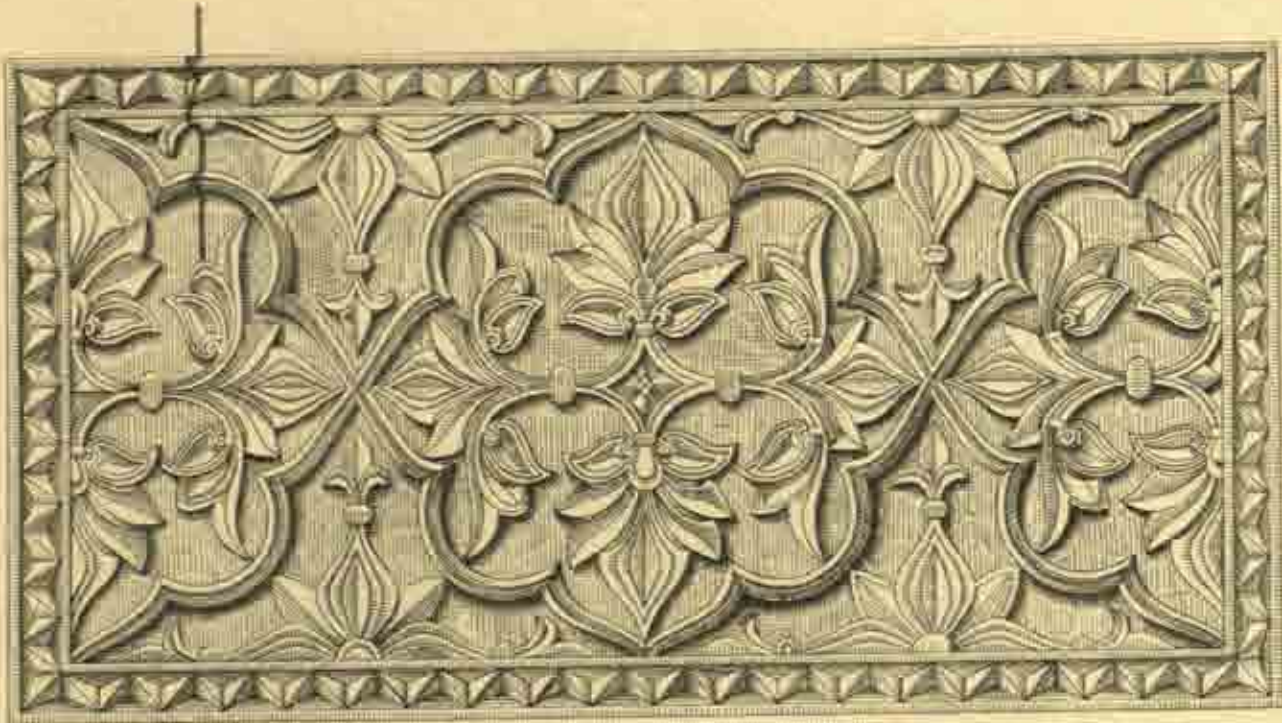


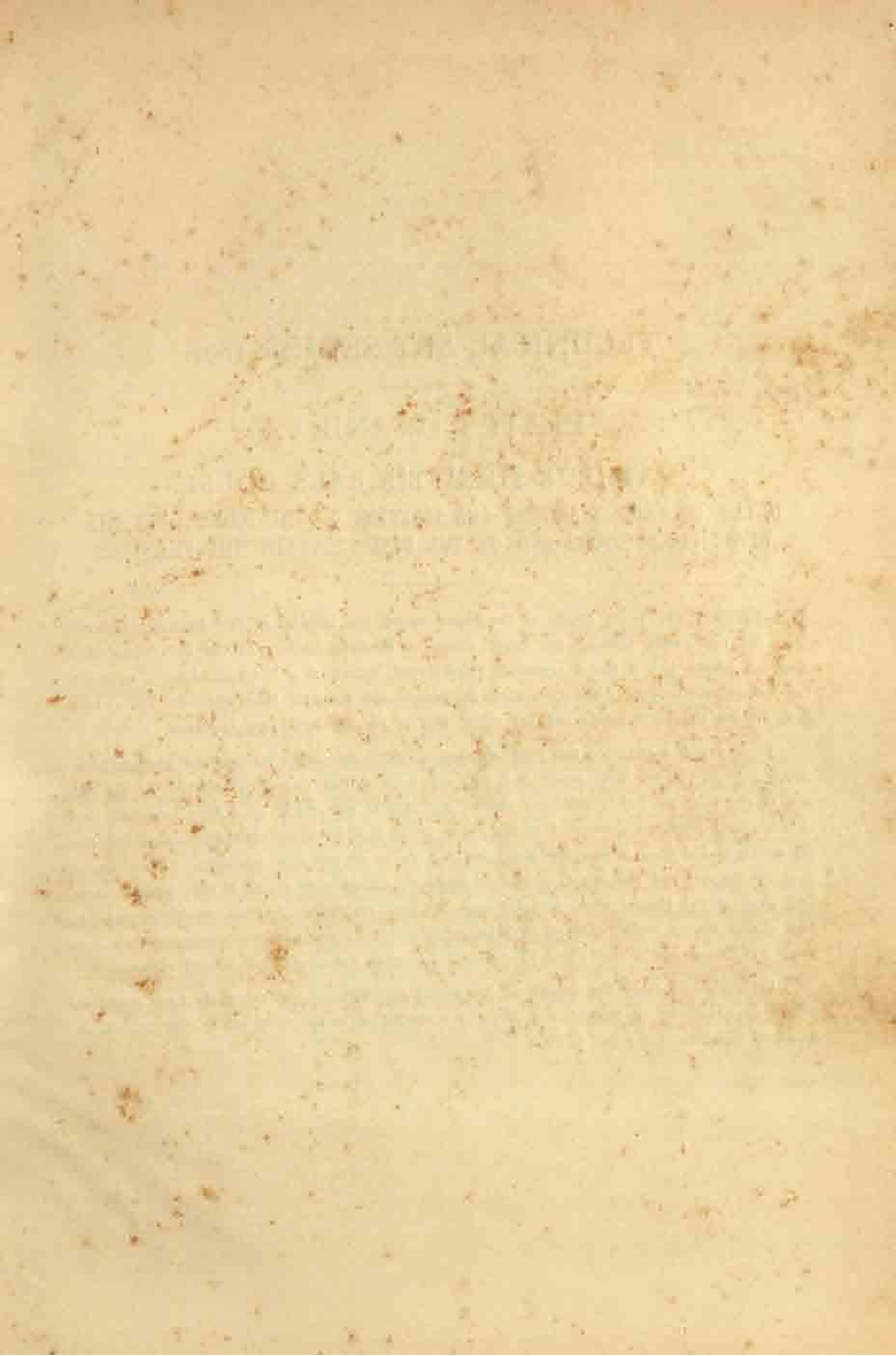
Fig. 2



Fig. 3



DETAIL OF DADO PANELS, SHI BAI'S HOUSE, FATEHPUR SIKRI



TECHNICAL ART SERIES, 1894.

PLATES IV AND V.

FATHPŪR SĪKRĪ: BĪR BAL'S HOUSE.

DETAIL OF FRIEZES AROUND THE INTERIOR OF THE DOMES OVER THE
UPPER FLOOR ROOMS AND OF THE BASES BENEATH THE PILASTERS.

FIGURES 1 and 2 are details of the friezes round the interior of the domes surmounting the two rooms forming the upper storey of Bīr-Bal's house. As the illustrations show, they are carved with a raised repeating trefoil-shaped pattern of a V section upon a ground of flat leaf ornamentation. Although similar, the designs are not both alike: the one, Fig. 1, being used for the south-east room; and the other, Fig. 2, for the north-west apartment.

Figs. 3 and 4 illustrate the style of carving upon the bases beneath the pilasters, which throughout the house, both inside and out, are more or less elaborately carved. At the bottom of the base we find a half-lotus rosette, and this is surrounded by a deep undulating band of rich raised ornament terminated at the angles of the base in carved ear-ends. In all instances the plinth of the base is perfectly plain, but the top is worked with mouldings. These are of a crude contour, and the upper member is invariably carved with a row of plain vertical leaves. The shaft of the pilaster rests upon the top of these mouldings, but the mouldings form no part of the pilaster itself. The pilasters are richly sculptured and generally are divided into three parts by oblong panels (see Plate V) enclosed by spiral leaf-scrolls and foliated creepers.

In nearly all cases the designs of the panels are different, and many of them might be utilised to advantage by artizans and others in a number of ways. How varied they are will be seen from the examples given in Plate V.

EDMUND W. SMITH.

Genl. Archaeological Survey of N.W. PROVINCES & DISH N^{os} 282 & 293



Fig. 1.

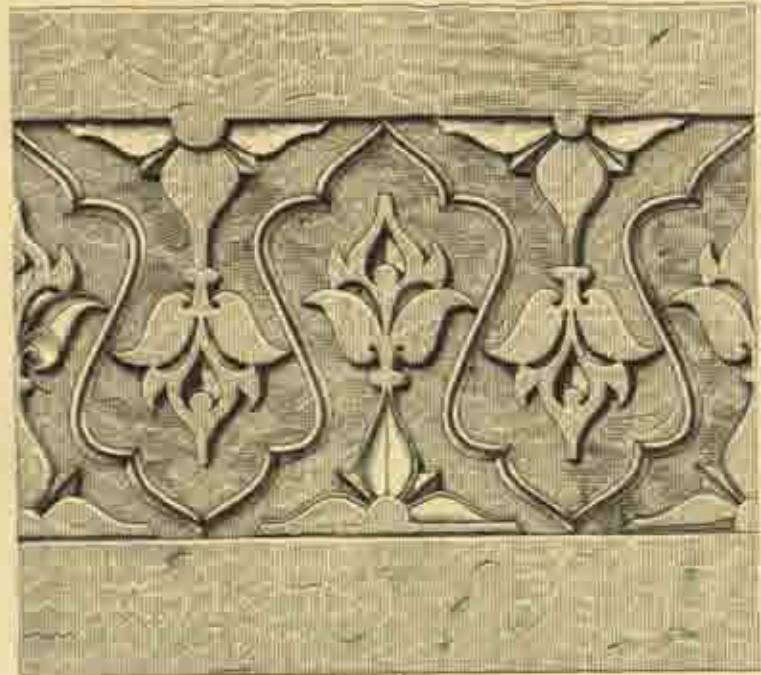


Fig. 2.



Fig. 3.



Fig. 4.



FIGS. 1 & 2 - DETAIL OF FRIEZES AROUND INTERIOR OF THE DOME OVER THE UPPER FLOOR ROOMS
FIGS. 3 & 4 - DETAIL OF BASES TO PILASTERS IN HALL HOUSE, FATEHPUR SIKRI.

Genl. ARCHAEOLOGICAL SURVEY OF N.W. PROVINCES & QUIN. Nos. 258 & 262.

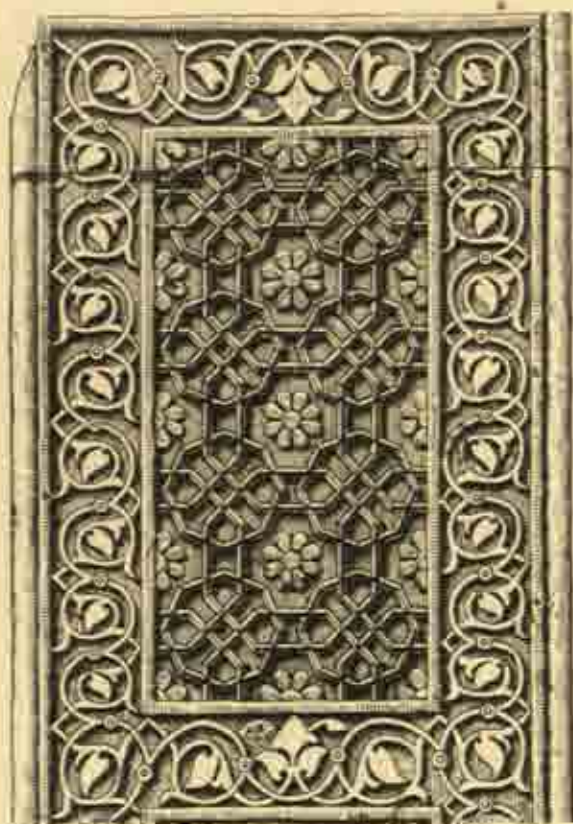


Fig. 1.

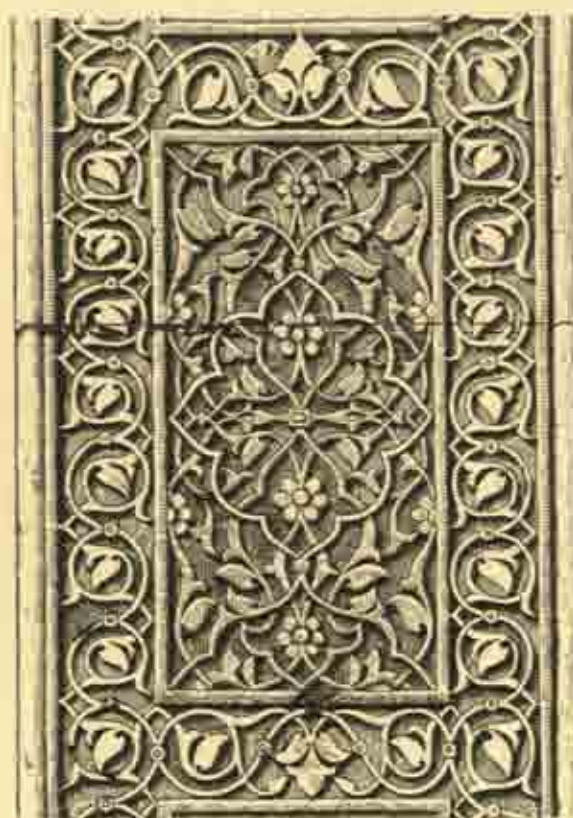


Fig. 2.



Fig. 3.



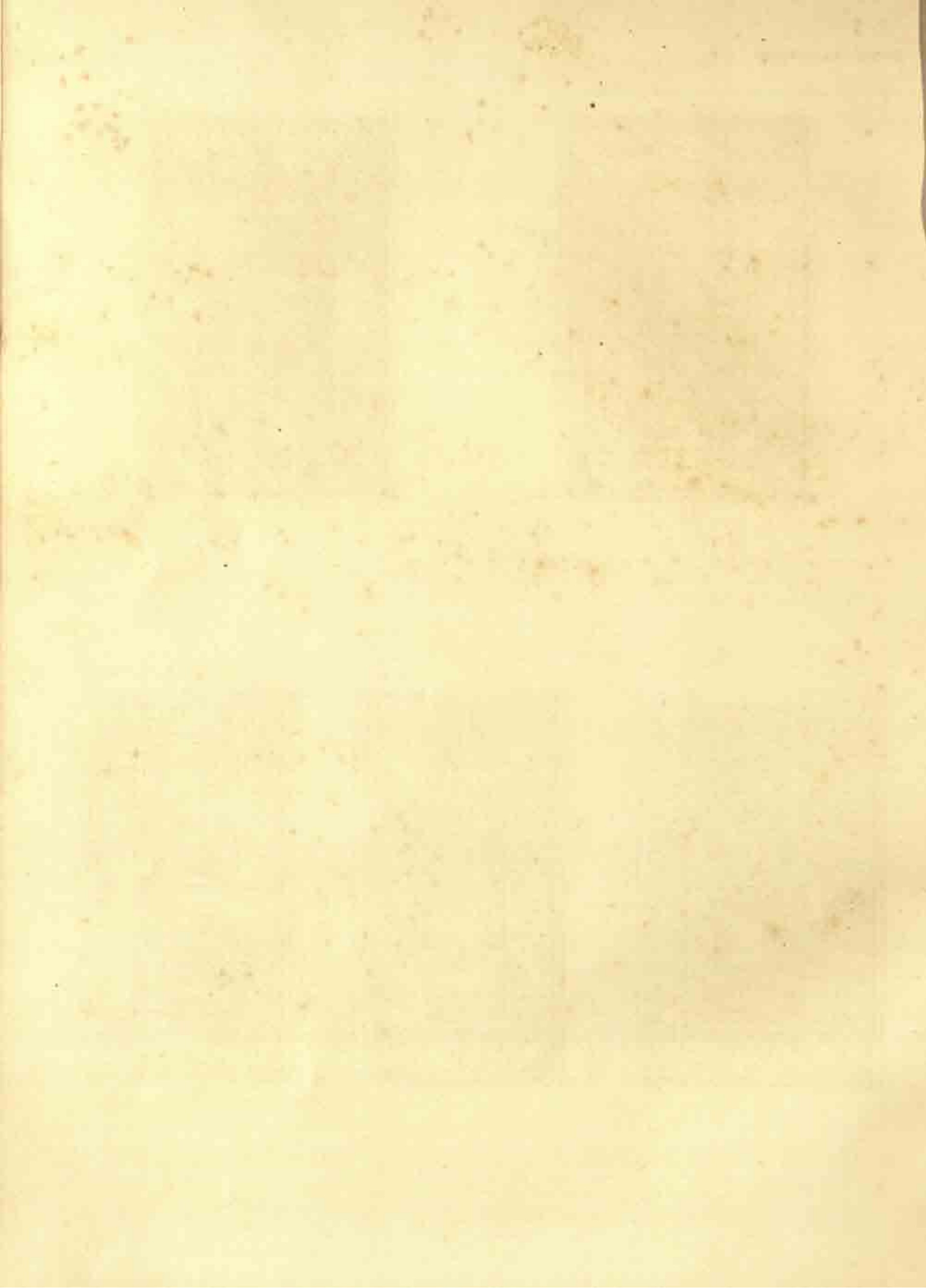
Fig. 4.

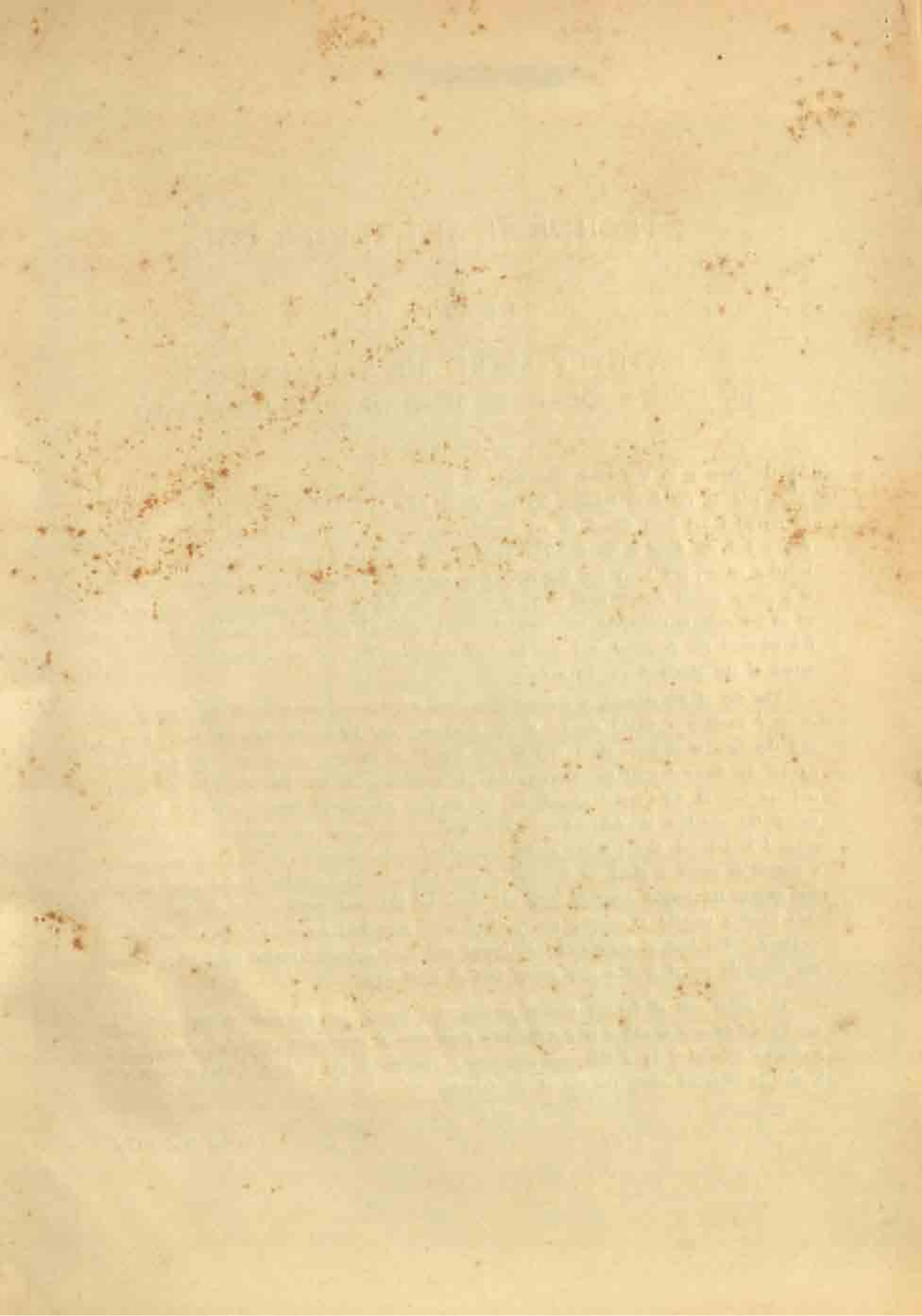


Fig. 5.



DETAIL OF PANELLING FROM FILASTERS, BIR BAL'S HOUSE, FATEHPUR, SIKRI.





TECHNICAL ART SERIES, 1894.

PLATE VI.

FATHPÛR SIKRÎ: BÎR BAL'S HOUSE.

THE NORTH PORCH.—DETAIL OF ARCHWAY OVER THE ENTRANCE.

THE drawing on this Plate represents the upper portion of the entrance porch on the north side of Bîr Bal's house. On the south side is a corresponding one, which, it is to be regretted has been turned, to suit modern requirements, into a bath-room. Both assimilate in design, but the detail is varied. The walls at the sides, both externally and internally, are elaborately carved, and every few feet apart they are broken up by pilasters. Between each pilaster is a pretty arched recess, some 1' 6" in depth. The ceilings of the porches are coved and carved on the soffit, or underside, with very effective geometrical patterns. In keeping with the walls the pilasters are decorated, and the drawings shown on Figs. 3 and 4, Plate IV, illustrate the nature of the ornament on the bases.

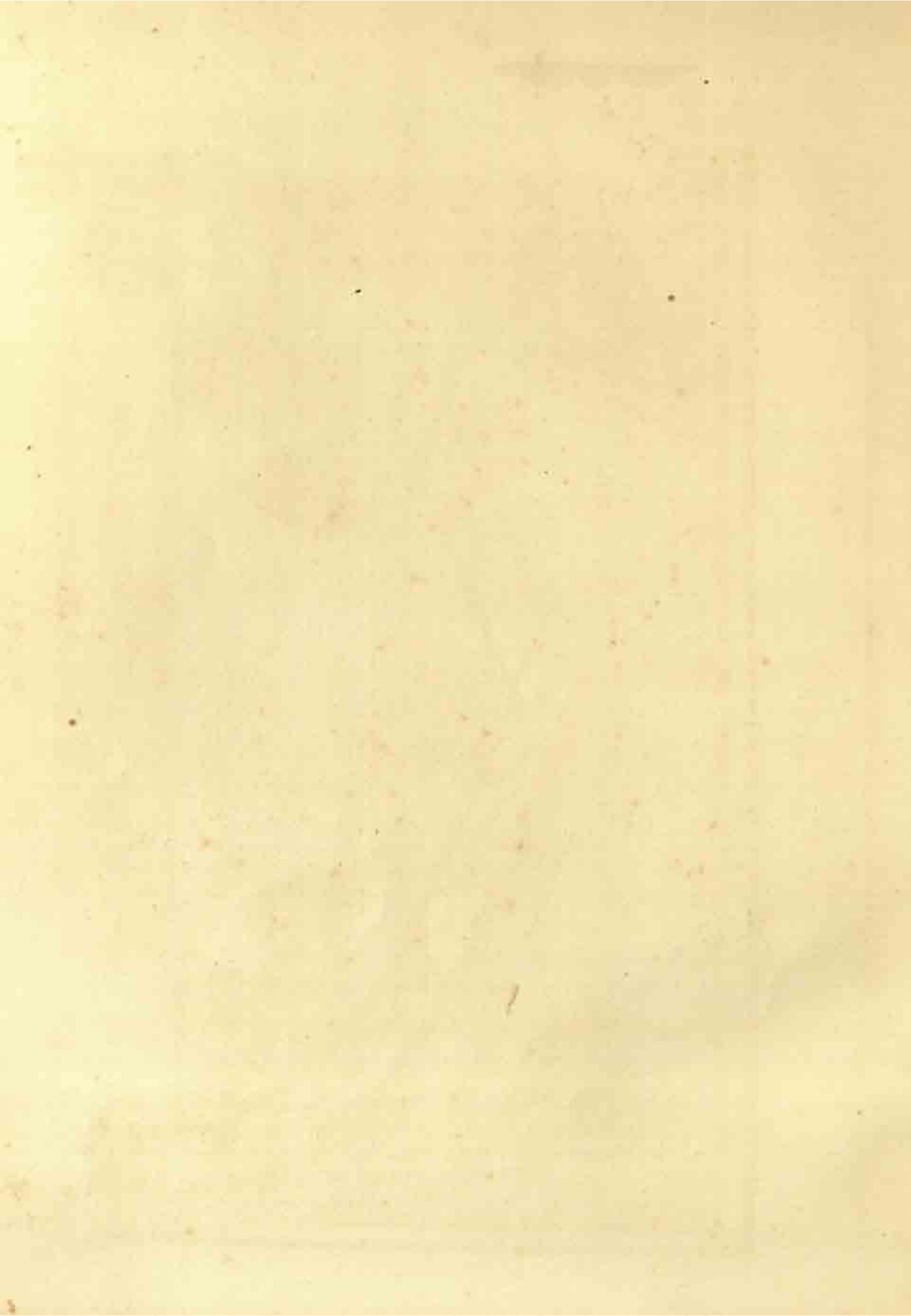
The top of the entrance is spanned by massive stone lintels, supported, as the drawing shows, on solid brackets of Hindû origin. Partly concealing the lintels are slabs of stone, hewn out into the form of an arch, which rest on the capitals of pilasters on the sides of the entrance. As will be observed from the drawing, they are exquisitely carved. The spandrels, the extrados, and the face of the "arch," as well as the brackets beneath the lintels, have each in turn received the attention of the carver. The ornamentation upon the spandrels is raised and grouped in graceful scrolls round a rich circular leaf-carved patera in the centre of each spandril, a section of which is given on the side of the drawing. The tendrils of the scroll encircling the pateræ are looped together here and there by little leaf rosettes, and the leaves at the ends have a peculiar re-entering curve, which is a prominent feature in Arabian and Persian ornament. The face of the "arch" is carved with the "sangtara" looped together by cuspings and along the top of it is a very pretty band of scroll-work.

The upper part of the left spandril is somewhat injured, but the work on the whole, considering its delicate nature, is in a remarkably good state of preservation, and this is owing to the protection afforded it by a drip-stone projecting a considerable way in front of the entrance which is seen in elevation along the top of the drawing.

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DETAIL OF ARCHED ENTRANCE NORTH PORCH, HIR BALD HOUSE, PATTERSON SQUARE



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PLATE VII.

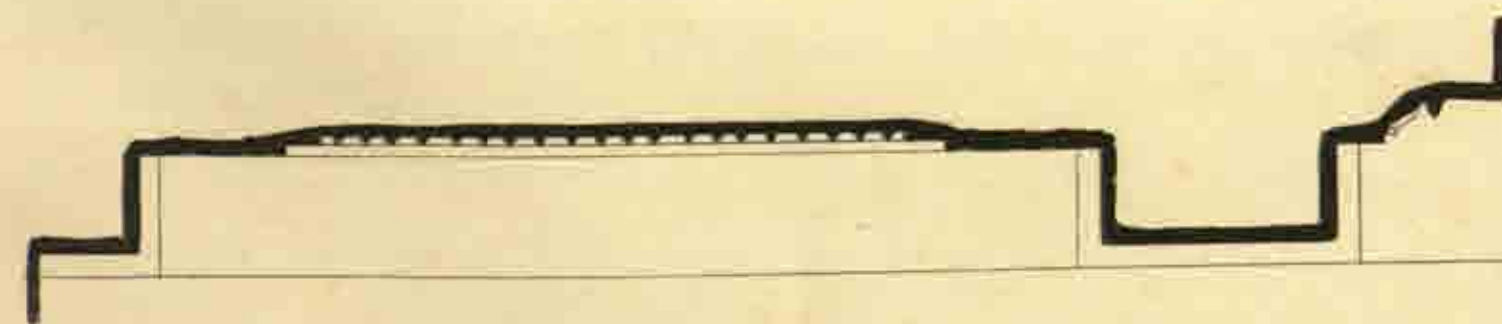
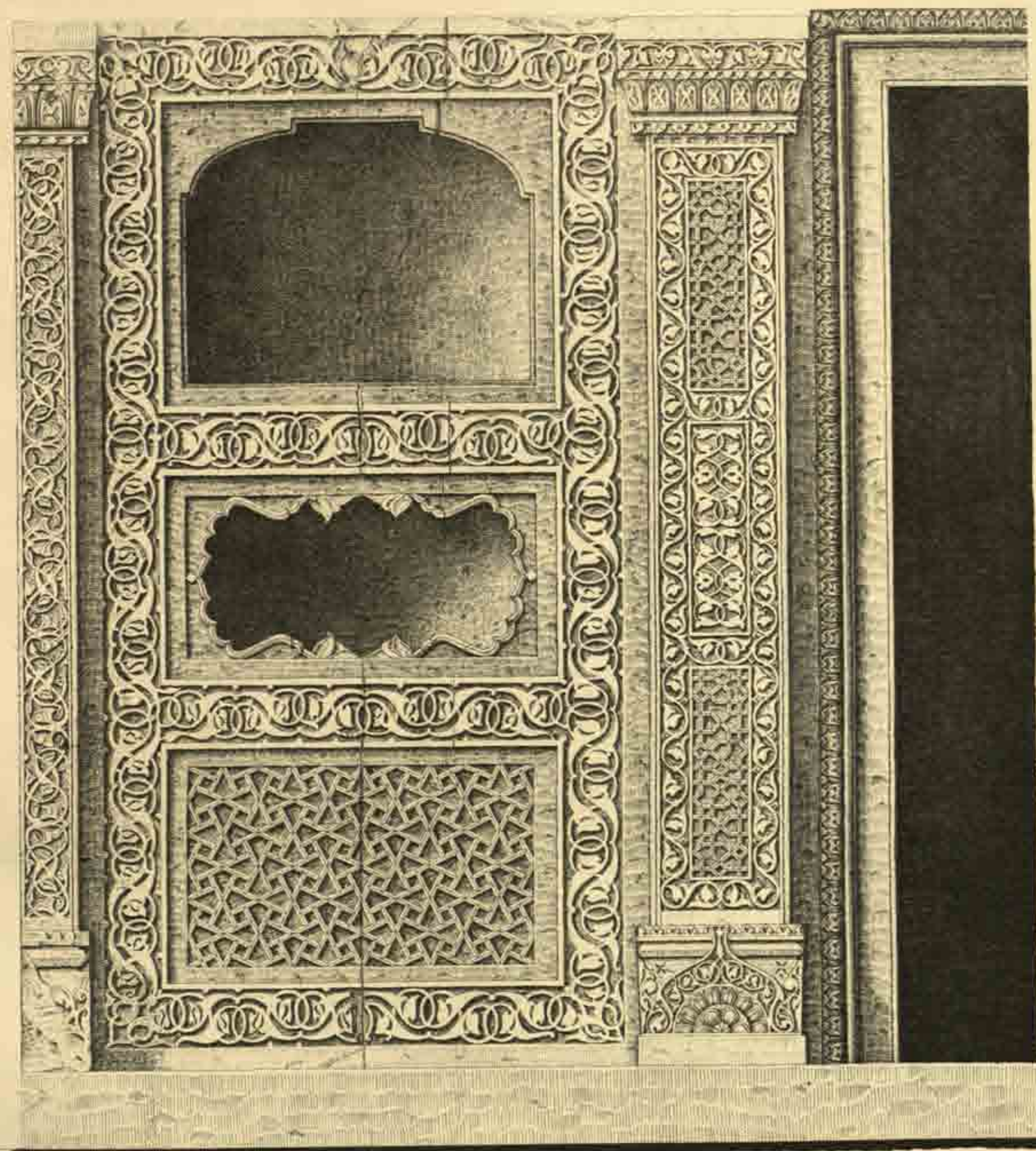
FATHPŪR SĪKRĪ: BĪR BAL'S HOUSE.
DETAIL OF WAINSCOTTED WALLS IN THE UPPER ROOMS.

TO what an extent the walls of Bīr Bal's house are carved can be judged from Plate VII, which illustrates the ornamentation upon the interior walls of the upper chamber crowning the south-east corner of the house. They are built in red sand-stone, and the wainscotting extends from the floor to the top of the capitals of the pilasters in the corners and upon the sides of the room supporting stone beams laid across the angles of the apartment to carry a dome above. The frieze around the dome was given on Plate IV.

The lower portion of the wainscotting is solid and panelled with an uncommon geometrical device, whilst the upper part is pierced by a recess, some 1'6" deep, divided by a shelf into two parts which served the purposes of compartments. The front of the shelf, like the sides of the recess and panels, is neatly chiselled with a continuous double leaf-scroll. The pilasters at the sides of the wainscotting are elaborately ornamented with floral and geometrical devices, and the architraves round the doors are carved in keeping with the surroundings. It is seldom, if ever, one sees a wall so elaborately carved, although it was a common practice of the period to divide them up into recesses, which were used—as furniture was hardly known—as almirahs. The design is more applicable to wood than stone, and with slight modifications might very suitably be utilised for cabinet-work.

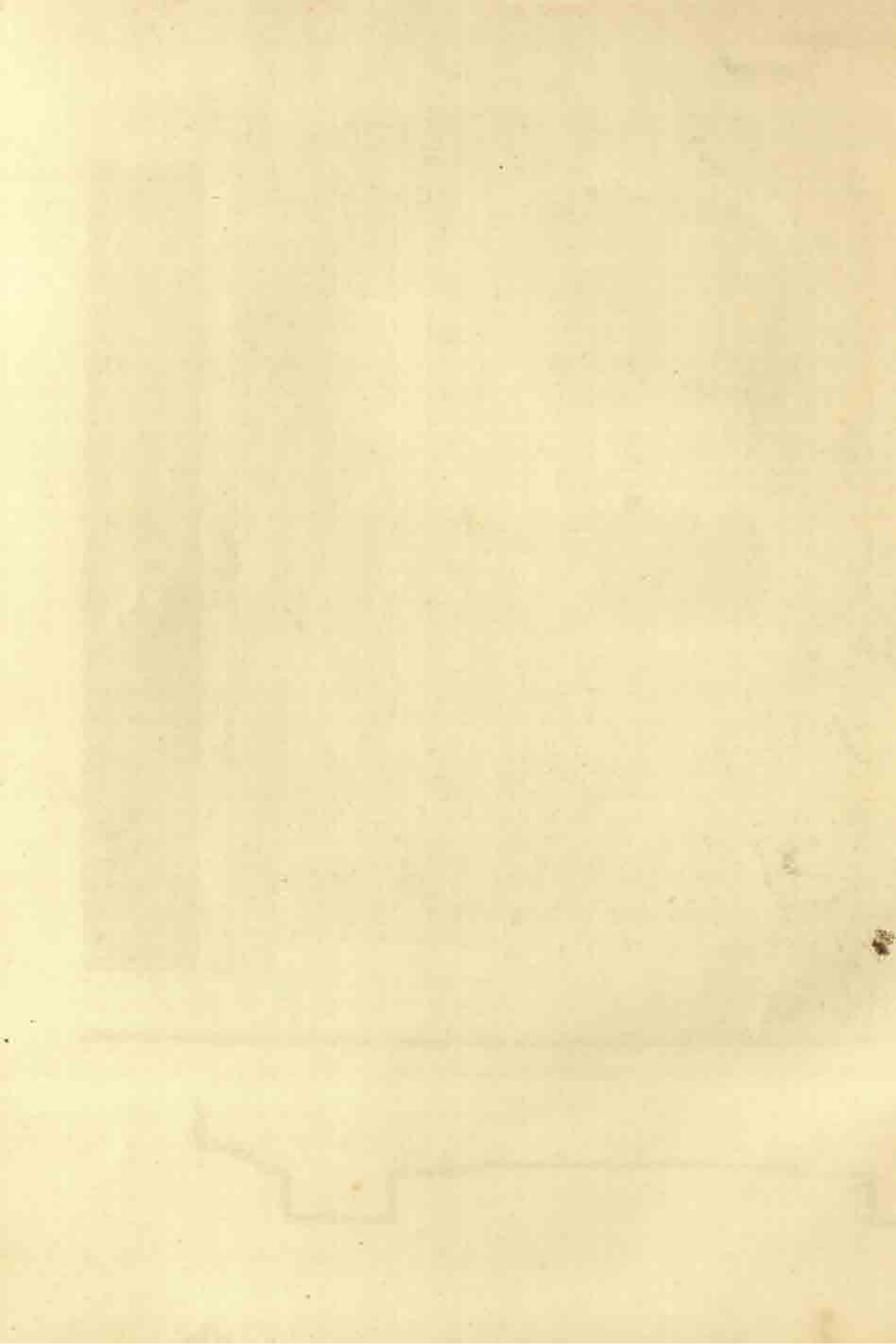
EDMD. W. SMITH.

Govt. Architectural Survey of N. W. Territories & Co. No. 300



inches 0 1 2 3 4 5 6 7 8 9 10 Feet

DETAIL OF WAINSCOTTED WALLS IN THE UPPER ROOMS, BIR BAL'S HOUSE, FATEHPUR, SIKRI.



THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

REPORT OF THE PHYSICS DEPARTMENT
FOR THE YEAR 1900-1901

The report of the Physics Department for the year 1900-1901 is a summary of the work done by the department during the year. It is a report to the University of Chicago, and is intended to give a general idea of the work done by the department during the year. The report is divided into two parts, the first part being a general summary of the work done by the department during the year, and the second part being a detailed account of the work done by the department during the year. The first part of the report is a general summary of the work done by the department during the year. It is a report to the University of Chicago, and is intended to give a general idea of the work done by the department during the year. The second part of the report is a detailed account of the work done by the department during the year. It is a report to the University of Chicago, and is intended to give a general idea of the work done by the department during the year.

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TECHNICAL ART SERIES, 1894.

PLATES VIII AND IX.

DECORATIVE ORNAMENTS FROM AN ANCIENT JAINA STÛPA AT MATHURÂ.

THE sculptures represented on these plates were found by me during the excavation of the Kankālī Tīlā at Mathurā in 1890, and are now in the Lucknow Museum. They formed parts of an ancient Jaina Stūpa which, according to the inscriptions discovered on the spot, was built several centuries before the Christian era (*see* also Plate VI of 1892). Plate VIII exhibits a small corner pillar of a railing, showing on the inner side two eyelet holes for the reception of the stone bars or rails. The flowered ornamentation used in the decoration of this pillar consists of the lotus plant with its buds and blossoms, which are of singular beauty and delicacy of design. The decorative ornaments, represented in Figures 1 and 2 of Plate IX, exhibit a variety of highly ornamental *trīśūlas* which, with the ancient Jainas, were considered as emblems of "the three Jewels," *viz.*, right faith, right cognition, and right conduct. The *trīśūla* was no doubt, in ancient India, a symbol used by all sects for various purposes and with various interpretations. It was also commonly used for personal ornaments, and appears in earrings, in necklaces, and women's girdles, and has frequently the very same shape as on Plate IX. Figure 3 represents a continuous undulating stalk studded with the leaves and flowers of the *pātali*, or "trumpet flower," which forms a very effective decoration. These new sculptures from the Kankālī Tīlā prove that the ancient art of the Jainas did not differ materially from that of the Bauddhas. Both sects use the same ornaments, the same artistic motives and the same sacred symbols, differences occurring chiefly in minor points only. The cause of this agreement is, in all probability, not that the adherents of one sect imitated those of the other, but that both drew on the national art of India and employed the same artists. Full proof of this assumption, which modifies the statements in some standard works on Indian archaeology regarding the development of ancient Indian art, can only be obtained by the excavation of really old Brahmanical temples.

A. FUHRER.

Govt. Archaeological Survey of India, W. P. B. No. 102.



Inner side



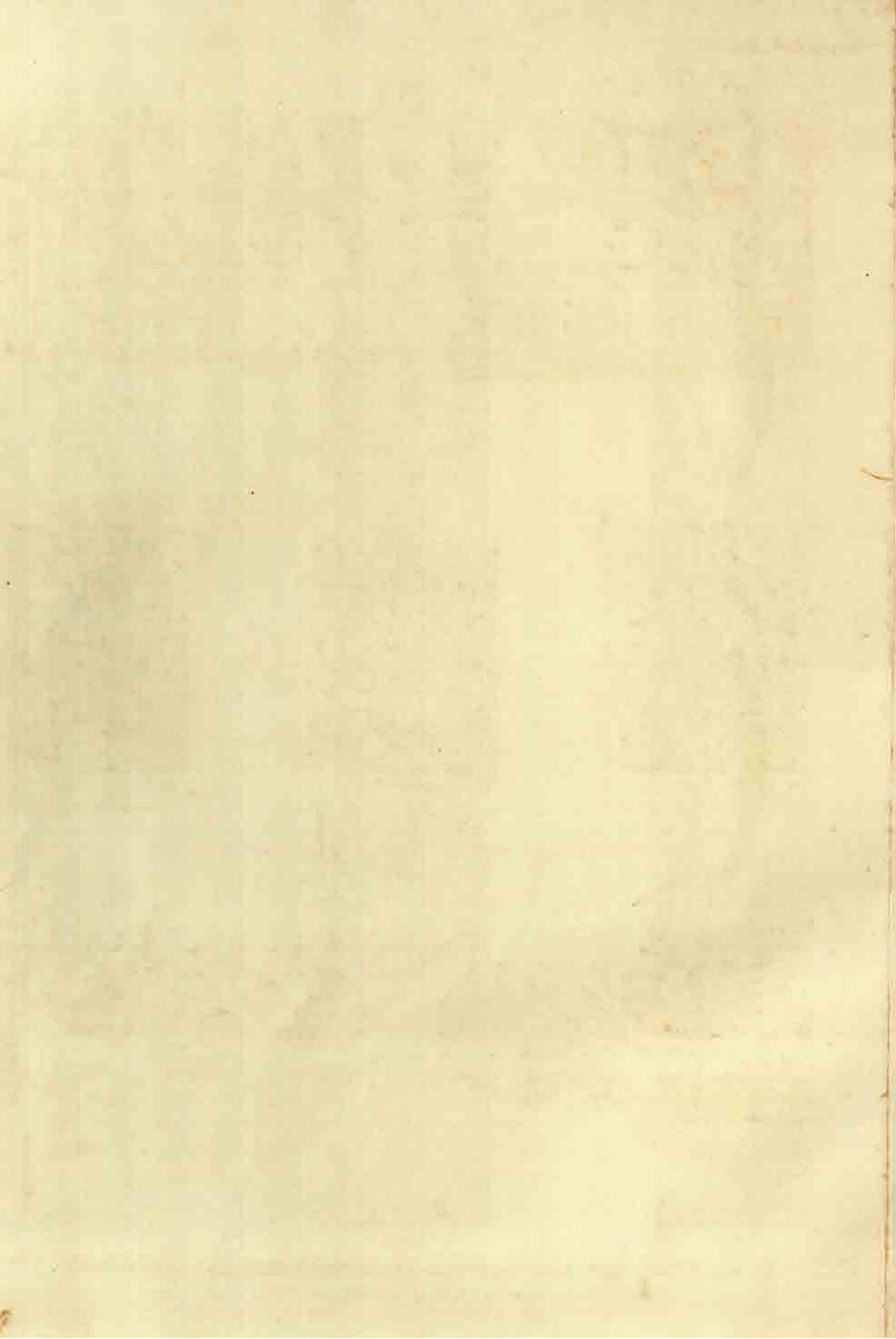
Face



Outer side



CORNER PILLAR OF RAILING FROM AN ANCIENT JAINA STUPA AT MATHURA.



Govt. ARCHEOLOGICAL SURVEY OF N.W.P. & OUDH, No. 512.

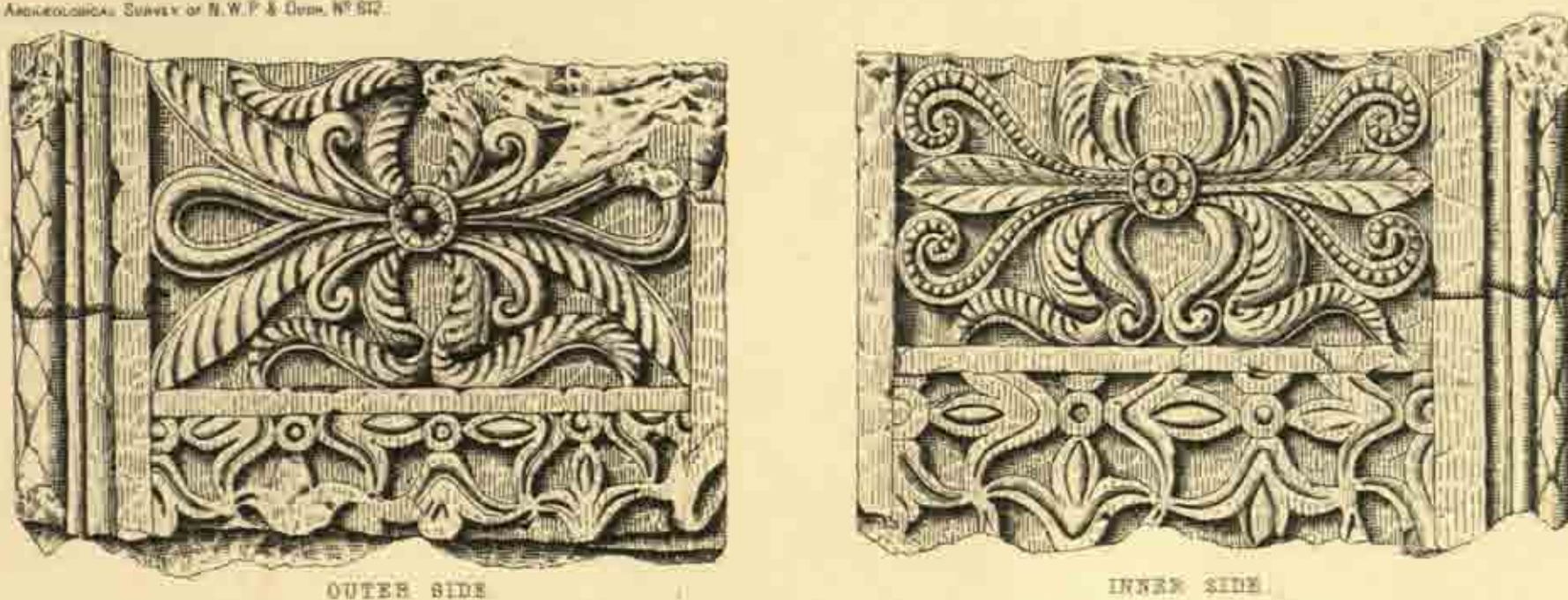


FIG. 1. FRAGMENT OF DOOR-JAMB.



FIG. 2. BASE OF SMALL RAILING PILLAR.

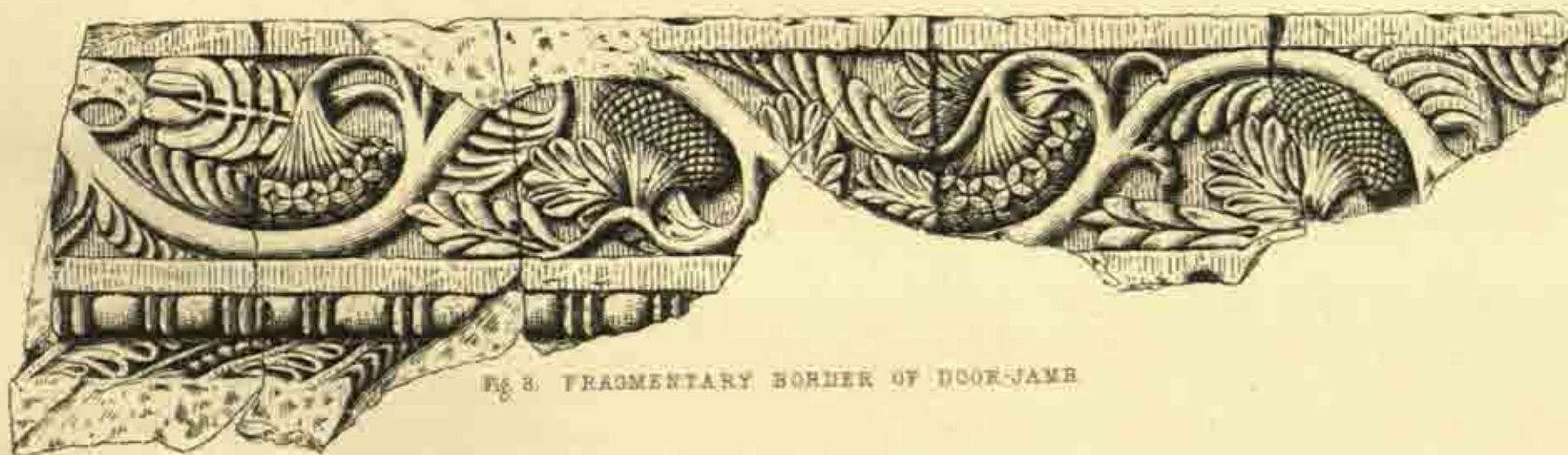


FIG. 3. FRAGMENTARY BORDER OF DOOR-JAMB.



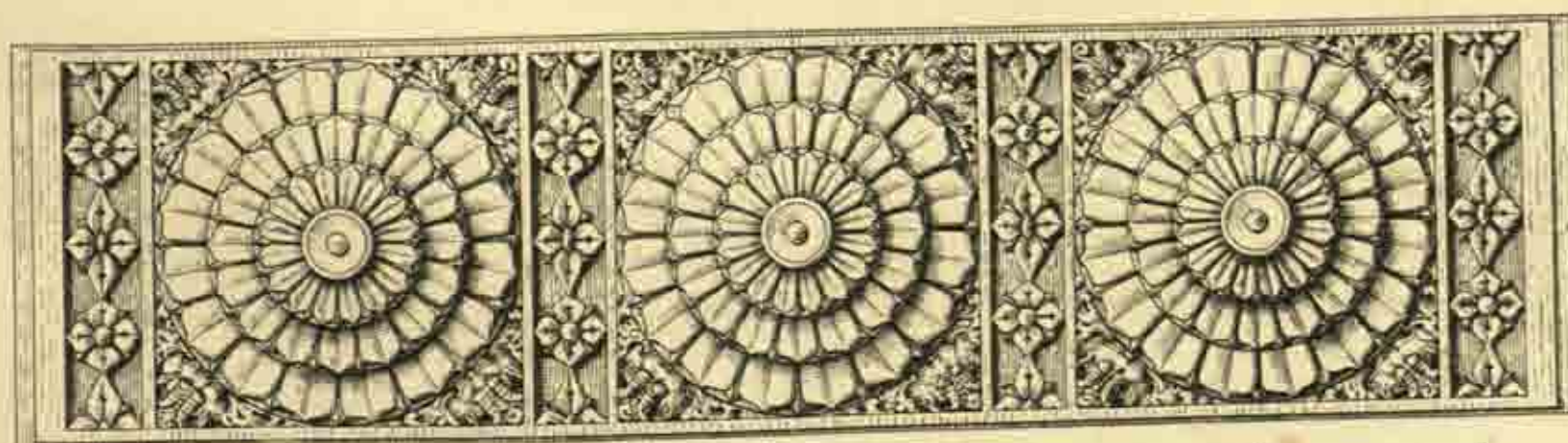
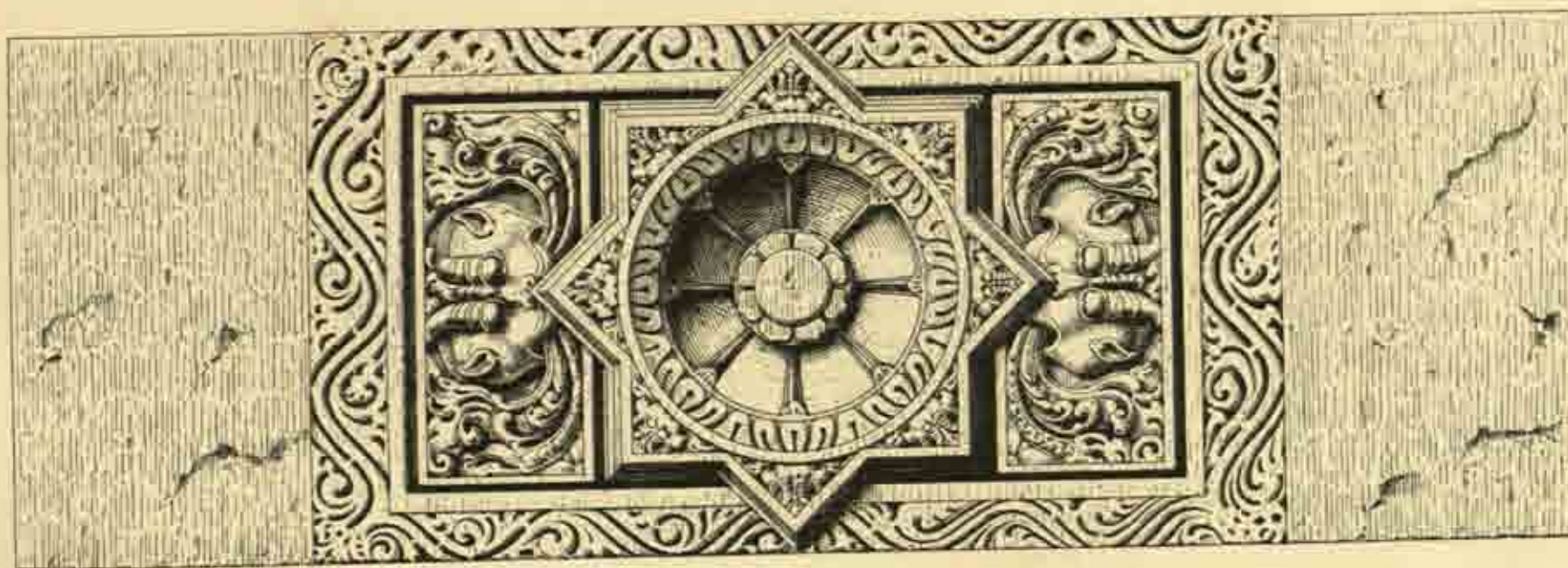
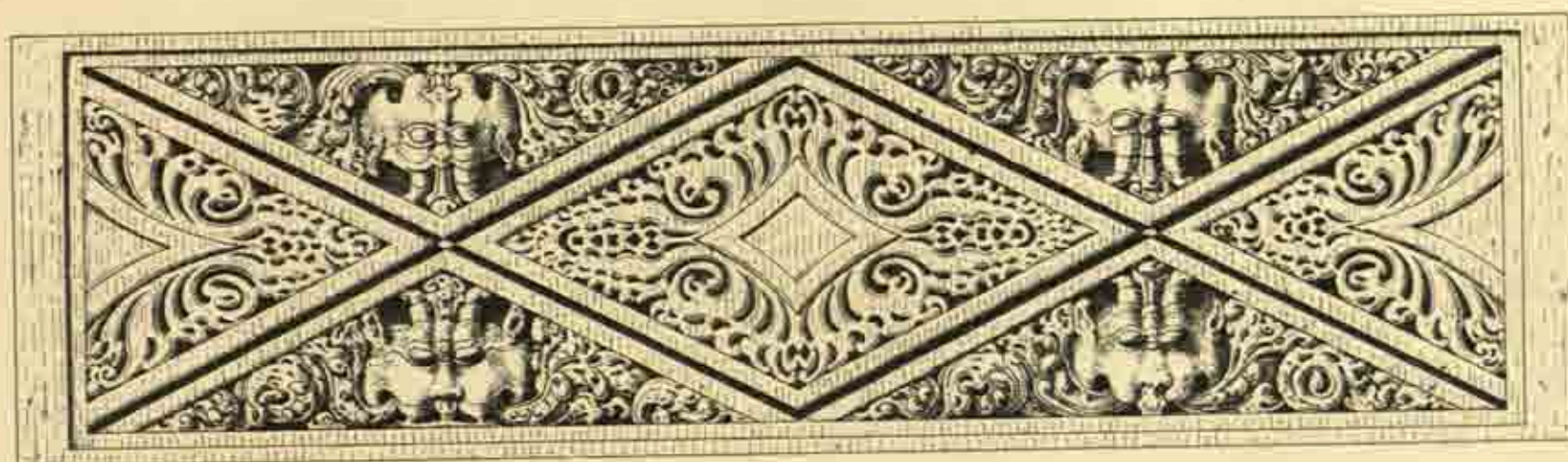
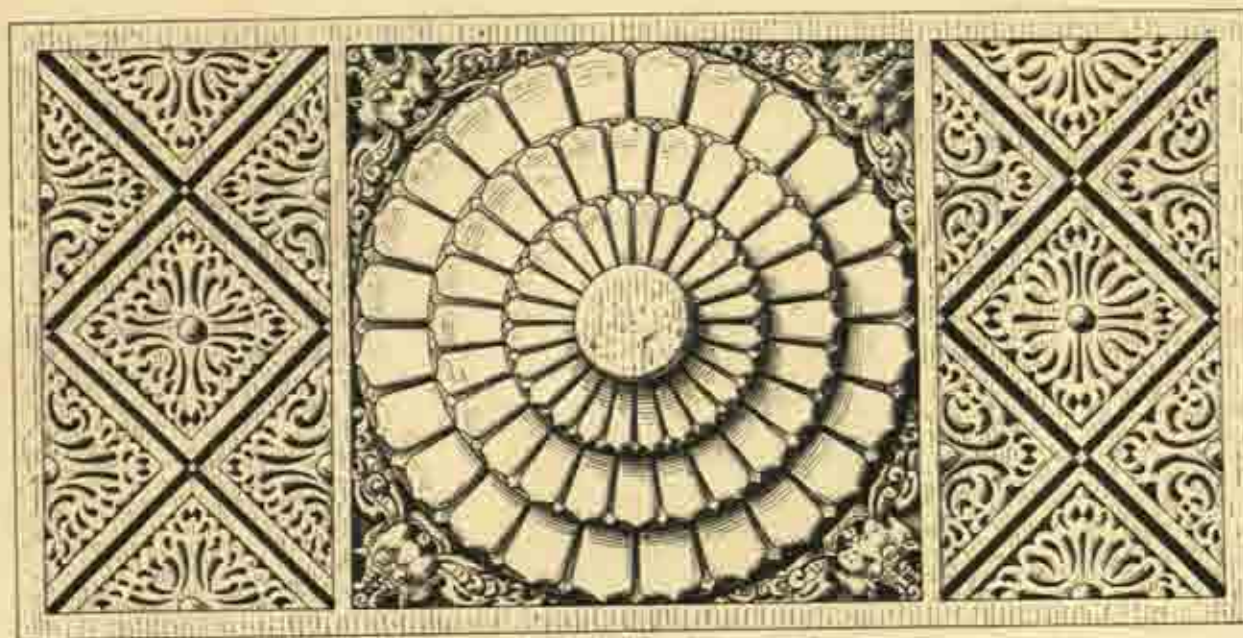
TECHNICAL ART SERIES 1894.

PLATE X.

DECORATED CEILING PANELS FROM THE TEMPLE
OF AMBARNATH.

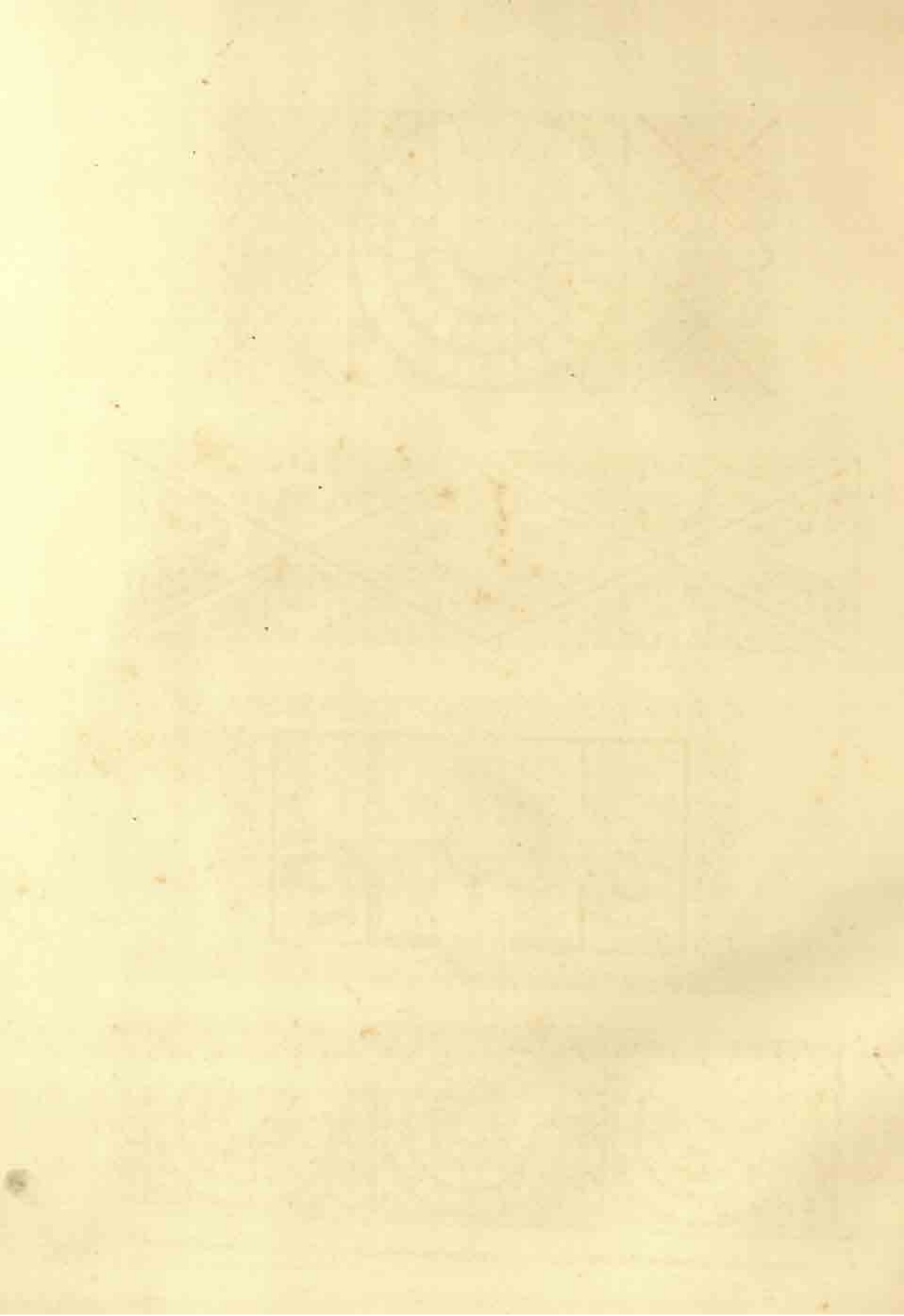
THE temple of Ambarnath, at the village of Ambarnath, is situated about 4 miles from Kalyan Junction, on the Great Indian Peninsula Railway. From an inscription within, it would appear to have been built in the ninth century. The building is richly sculptured throughout, but its ceilings are especially well decorated. A great deal of it is incised work, and the light, as it comes in at the doorways at an oblique angle upon it, produces deep rich shadows in the channels between the pattern.

GOVT ARCHAEOLOGICAL SURVEY OF WESTERN INDIA. No 1055.



CEILING PANELS FROM THE TEMPLE OF AMBARNATH, NEAR KALYAN, BOMBAY.

Survey of India Office, Calcutta, August 1894



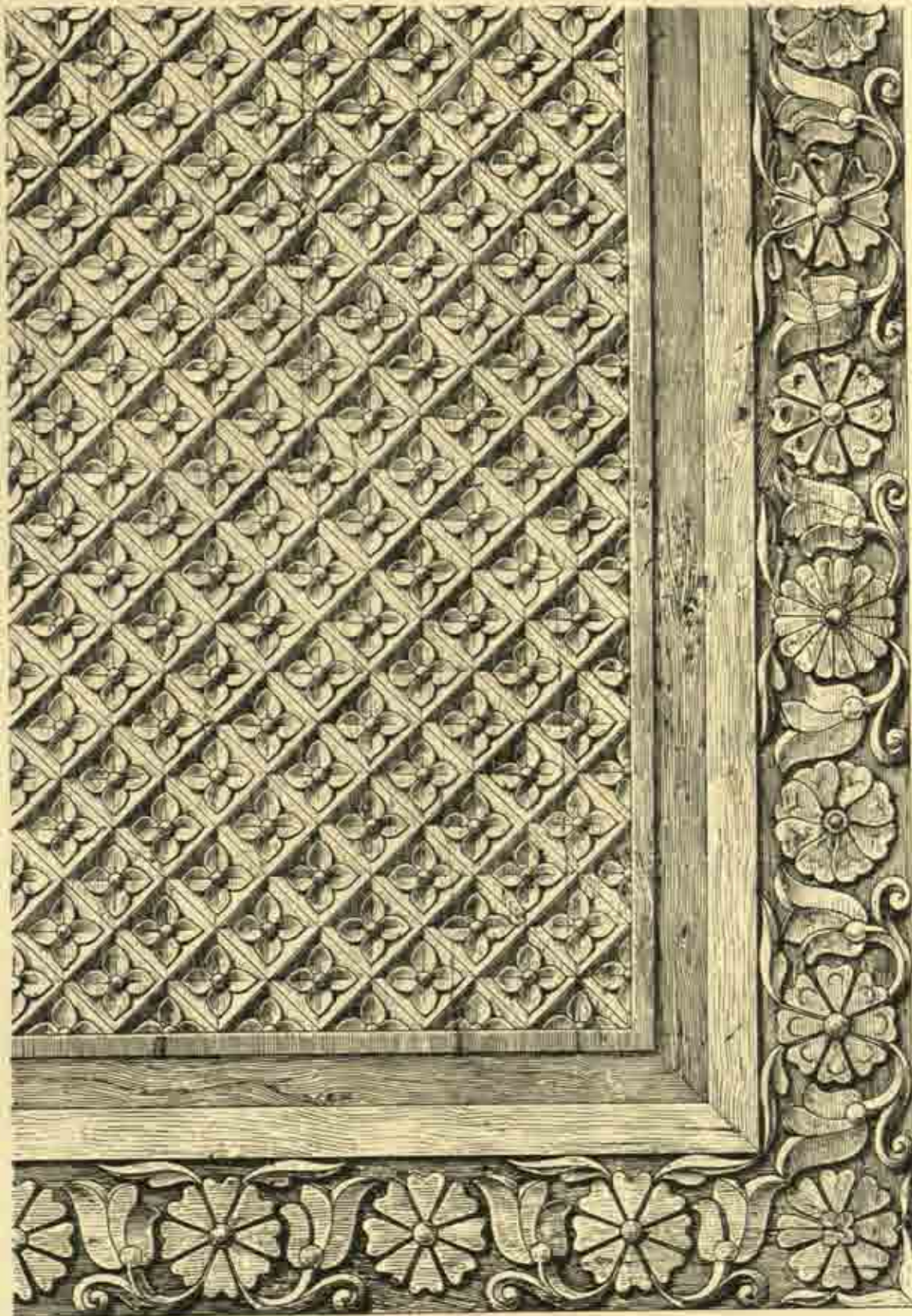
TECHNICAL ART SERIES 1894.

PLATE XI.

WOOD-CARVING FROM BIJAPUR.

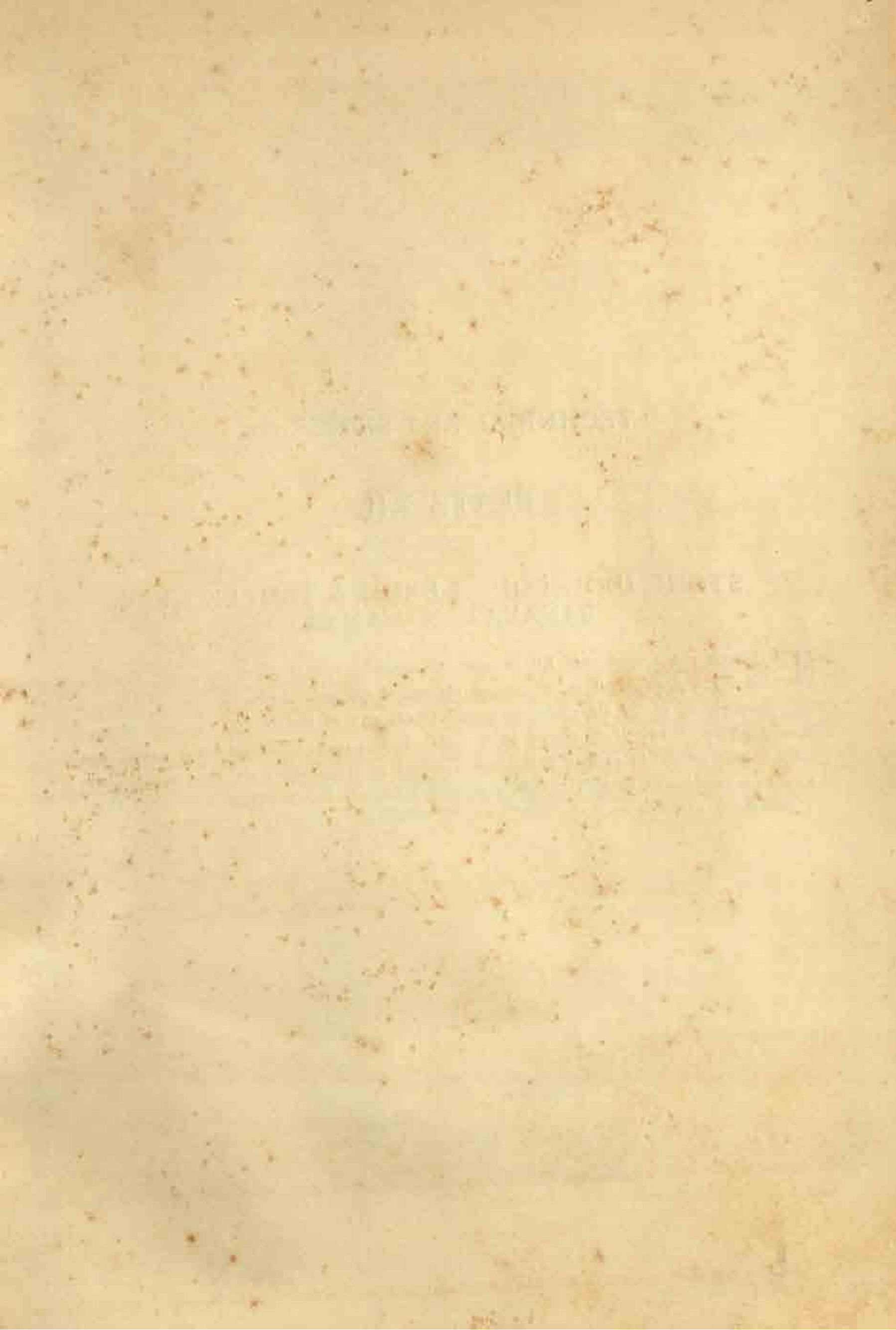
THE wood-carving on Plate XI is from Bijapur. Bijapur, though noted for its buildings and work in stone, is not so for its wood-carving, at least at present. But the city was rifled when it fell into the hands of the Marathas in 1818, and nearly all its buildings were stripped of their woodwork. The few fragments remaining, which are occasionally met with, are sufficient to justify the conclusion that it contained abundance of remarkably fine work in this line which supplemented the masonry work, such as ceilings, balconies, window frames and shutters, doors, etc. Much of it was gilded and painted, as may still be seen in the Asār Mahal.

The Architectural Survey of Western India, 1891-1892.



PORTION OF A CARVED WOOD CEILING PANEL BIJAPUR.

Survey of India Office, Calcutta, August 1893.



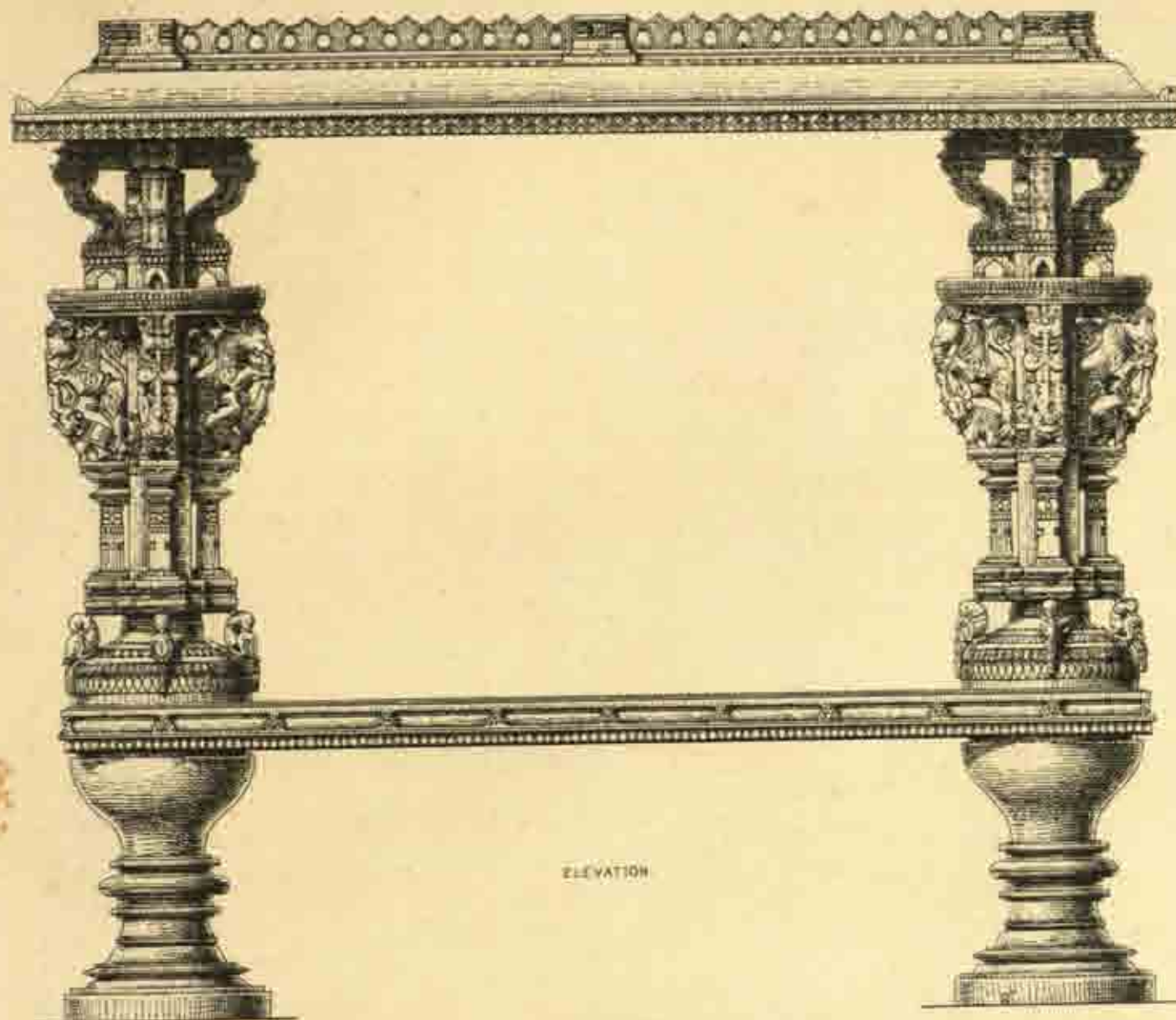
TECHNICAL ART SERIES 1894.

PLATE XII.

STONE IDOL-COUCH FROM A TEMPLE AT
BANAVASI, N. KANARA.

THE stone couch upon plate XII is preserved in the temple of Madhukēśvara at Banavasi, in North Kanara. It is intended for the use of the god. Delicately chiselled stonework is a characteristic of the old Chalukyan temples of this part of the country, the material used being generally a very close grained black stone which is fairly hard yet easily carved, and takes a high polish. In fact, it is of such an uniform grain that whole shafts of round columns have been turned with all their mouldings in upright lathes. The half plan of the bed shows a very pretty marginal band of incised ornament which runs all around it.

Genl. ANTHROPOLOGICAL SURVEY OF WESTERN INDIA, BY 1893



STONE COUCH AT A TEMPLE AT BANAVASI NORTH KANARA

Survey of India Office Calcutta August 1894

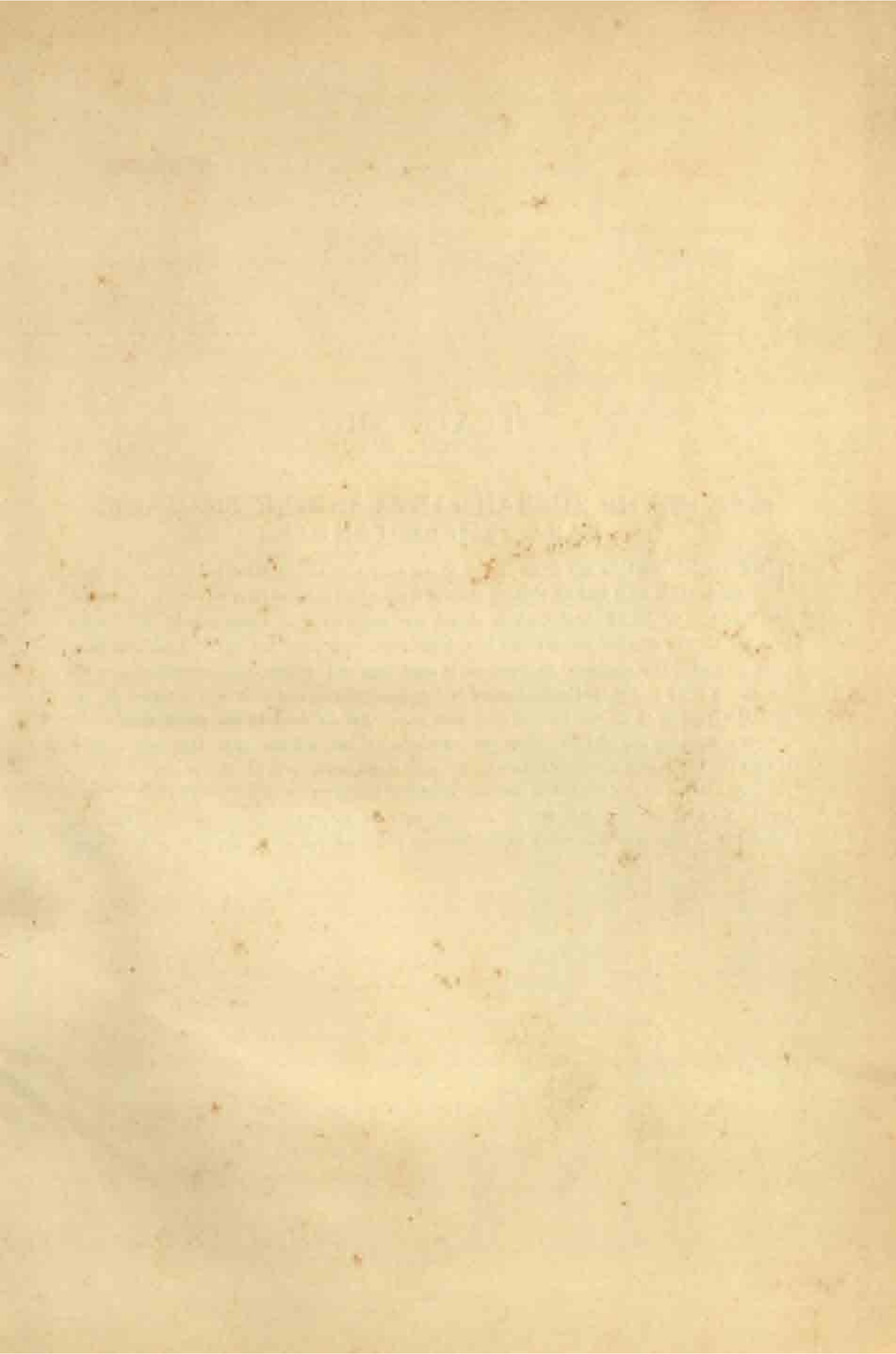
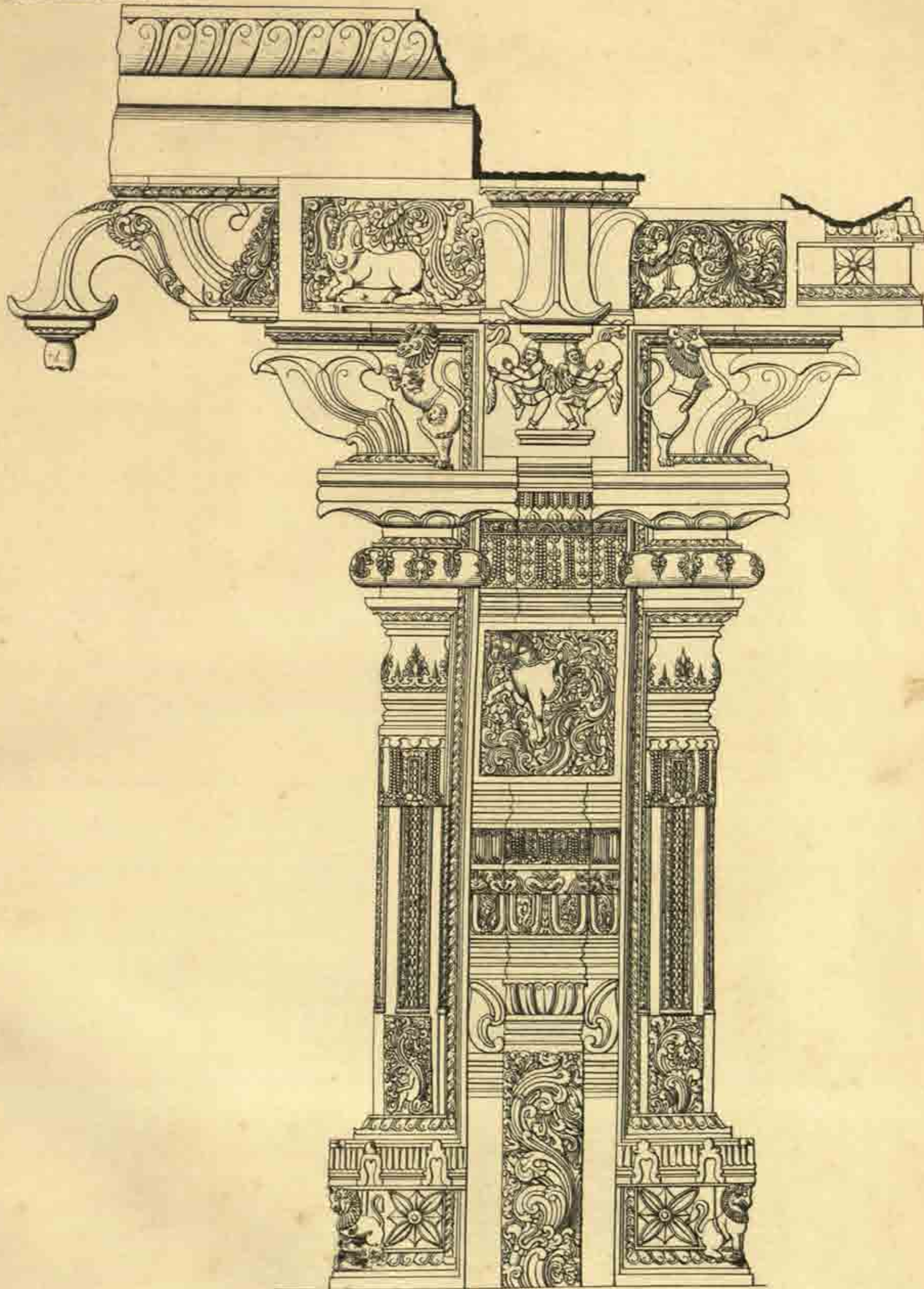


PLATE XIII.

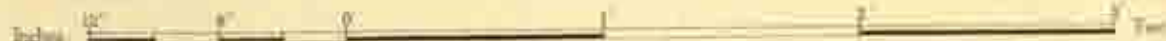
PIER IN THE SUBRAHMANYA SHRINE, BRAHADÊS- VARA TEMPLE, TANJORE.

THE Tanjore temple is one of the earliest of the greater temples of South India. In it, the great shrine, which dates from the eleventh century, is the most prominent feature. In this, it contrasts with the other well-known temples, whose shrines are insignificant as compared with the outer and later works. The principal shrine stands in a large single courtyard, and has a smaller entrance court in front. The accessory buildings are of much later and varying date, extending up to the seventeenth century. The temple is described by Fergusson. (*Indian and Eastern Architecture*, pp. 343-45.) His ideas as to its age seem to have been correct, but the dates he has quoted from another authority make the central Chola shrine some centuries too late, and the other Dravidian buildings too early. The carved stone pier, shewn in the plate, stands in the open verandah in front of the Subrahmanya shrine—a small detached building adjoining the larger shrine. The plan of the central portion is square and octagonal, with an attached shaft on two of the opposite faces. It has many features in common with that shewn on the following plate, and dates from the seventeenth century.

GOVT. ARCHAEOLOGICAL SURVEY OF SOUTHERN INDIA



Scale of Feet



PIER IN THE SUBRAHMANYA SHRINE, BRAHADESVARA TEMPLE, TANJORE

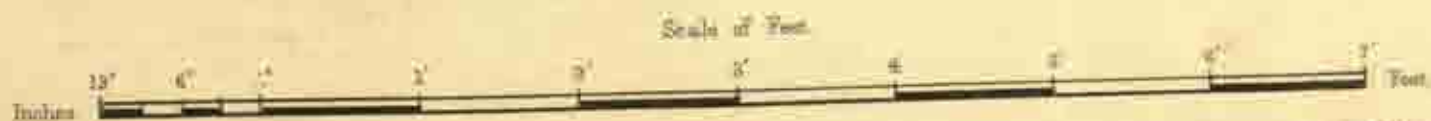
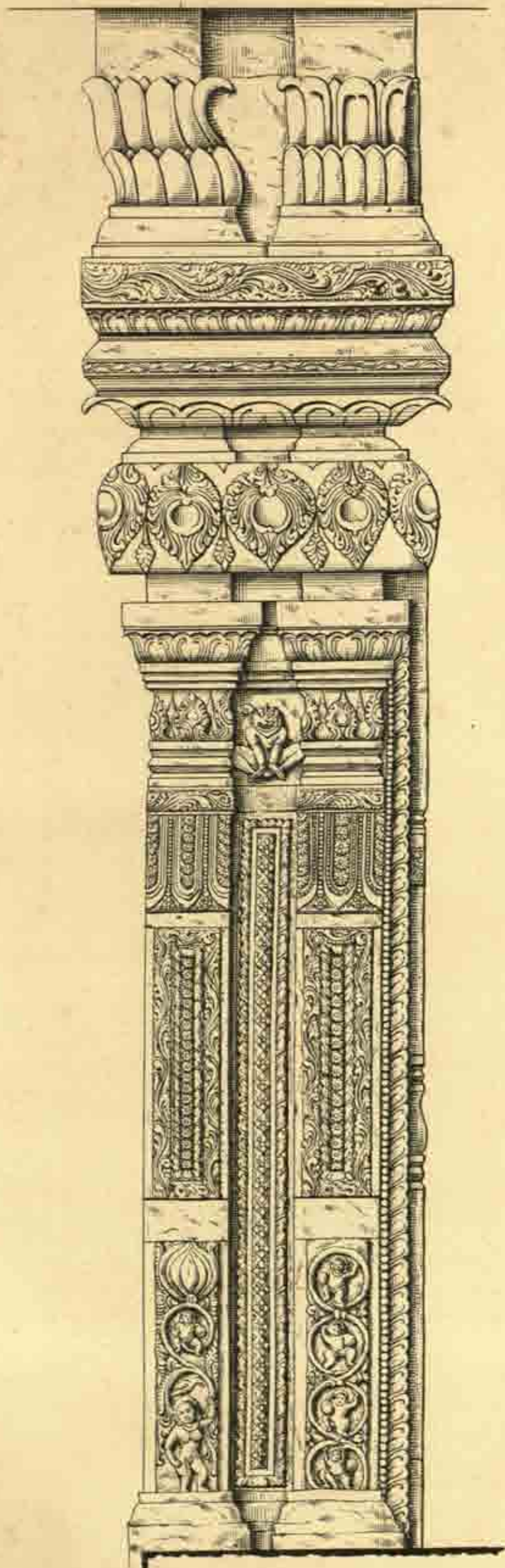


PLATE XIV.

PIER IN THE THOUSAND PILLARED MANDAPA, MINAKSHI AMMAN TEMPLE, MADURA.

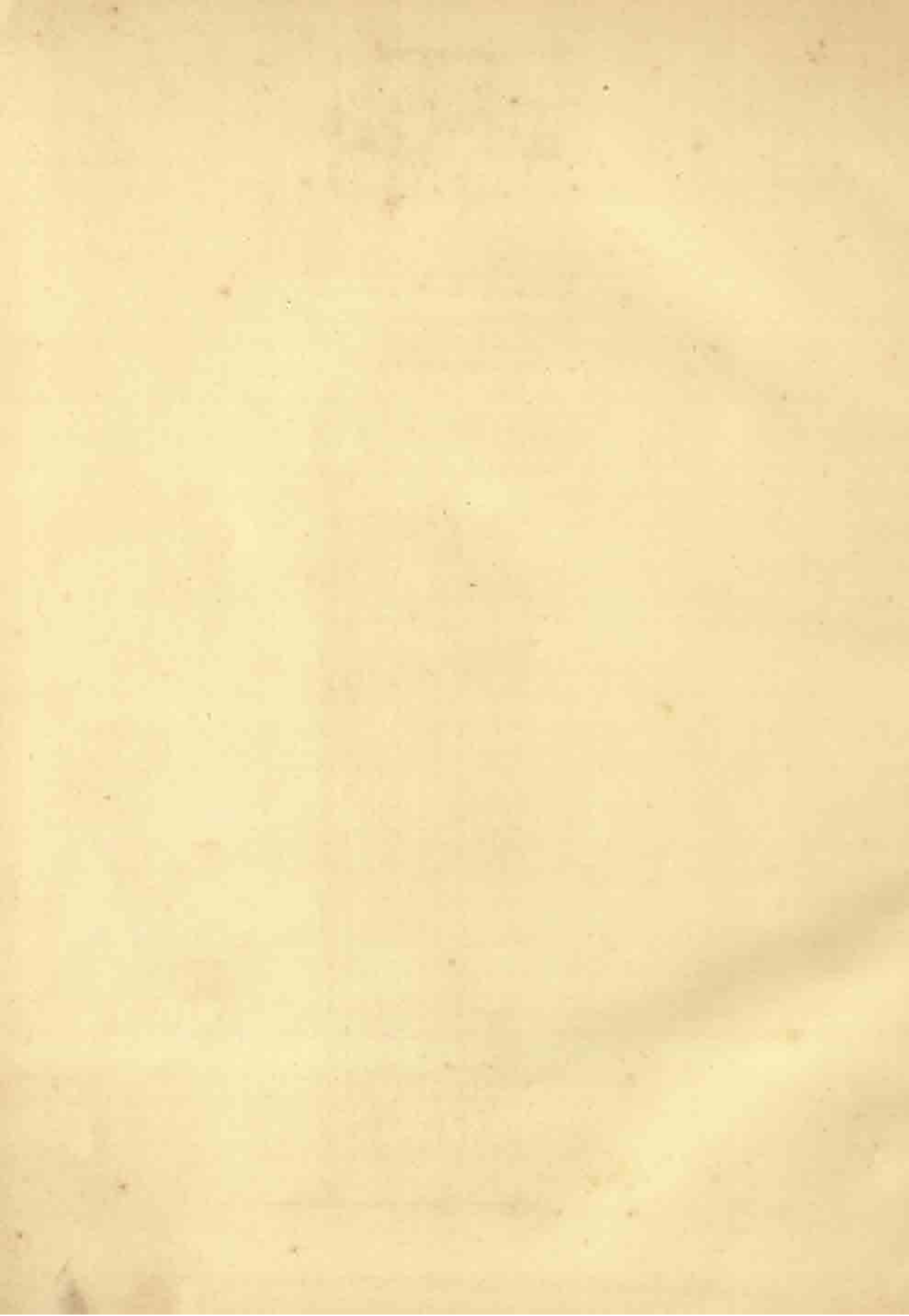
THE Madura temple is a typical example of the great Dravidian buildings. Its most noteworthy features are found in its later works. Among these is the Airakal or thousand pillared mandapa. Fergusson mentions (*ib.* p. 364) that its "sculptures surpass those of any other hall of its class" he was acquainted with. The plate shews one of the front piers. In plan it is a square with two narrow pilasters on two opposite faces.

Colonel Alexander Cunningham, Survey of Southern India.



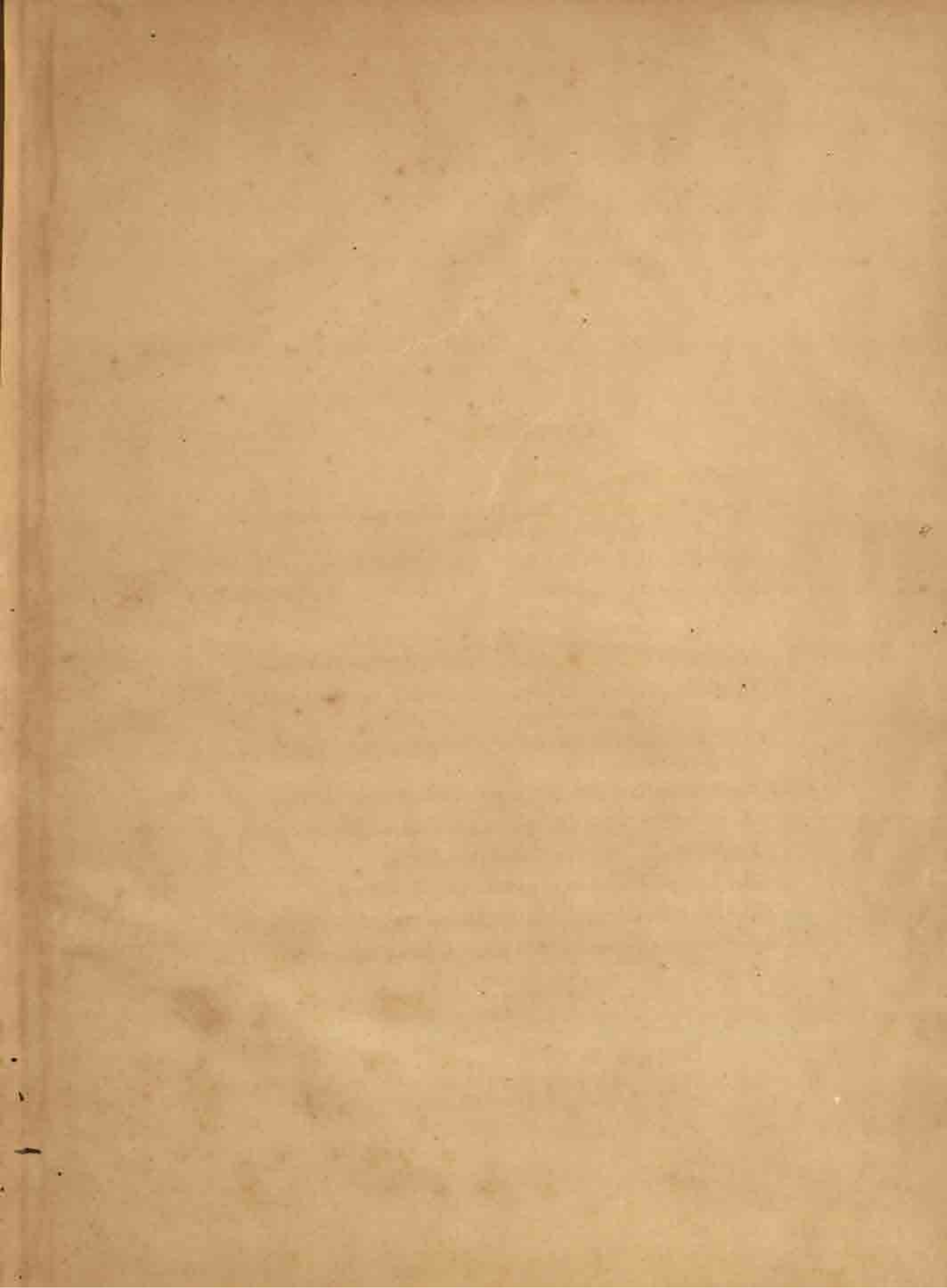
PIER IN FRONT OF THE THOUSAND PILLARED MANDAPA. MINAKSHI AMMAN TEMPLE, YADURA

Survey of India Office Calcutta July 1906



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